HIGHLY INEFFECTIVE HABITS
Paul M. Ingevaldson has a short list of IT types who will never sit behind the CIO's desk. **PAGE 36**

INSIDE THE BALLOT BOX
Security researcher Herbert Thompson discusses a hack of e-voting systems in Florida. **PAGE 14**

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How to survive a BadBoss

Sooner or later, everyone works for the manager from hell. Here's how various CIOs survived the experience. **Page 31**

ONLINE: computerworld.com/blogs/badboss

Microsoft Earns Patching Praise From IT Execs

Users say some rivals lag behind on fixing flaws, disclosing security info

BY JAIKUMAR VIJAYAN AND ERIC LAI

Microsoft Corp. may take the most heat on security vulnerabilities, but other software vendors need to catch up when it comes to dealing with flaws found in their products, according to users and analysts interviewed last week.

Many credited Microsoft for having made good progress in its efforts to develop a formal strategy for addressing vulnerabilities in the four years since Bill Gates, the company's chairman and chief software architect, announced its Trustworthy Computing initiative in January 2002. But the same isn't true for Oracle Corp. and other vendors that are lagging behind Microsoft when it comes to vulnerability discovery, remediation and disclosure processes, the users and analysts said.

"I think Microsoft has developed a strategy and a vision around security and vulnerabilities that they just didn't have a few years ago," said Lloyd Hession, chief security officer at BT Radianz, a New York-based provider of telecommunications services to financial firms. "It's hard to point to a single vendor who is doing a better job."

Policies for responding to the discovery of security flaws are taking on increased importance as database, application

Security, page 10

MasterCard Charges Ahead on Managing Security Data

New tool poses IT challenges but eases monitoring work

BY MATT HAMBLEN

Rolling out a new breed of tools that capture information from IT security logs can be a daunting task for corporate users, who may need to bulk up their systems and storage devices to handle the torrents of data that can be generated.

But MasterCard International Inc. has survived the deployment process and is seeing big gains in efficiency among its security staffers, according to Malcolm McWhinnie, the company's information security technology head.

Last April, MasterCard installed Sentinel, a security information management tool from e-Security Inc., on its mainframe and distributed servers and on hundreds of network devices at its data center in O'Fallon, Mo.

The goal, McWhinnie said last week, was to simplify security event management procedures that were previously handled by custom-built tools, which required a great deal of maintenance and had limited scalability.

McWhinnie hasn't done a formal calculation of return on investment. But, he said, "my people are spending much more time drilling into the security events they see and much less time managing the tool and taking action on that."

Sentinel collects and evaluates "millions and millions"

MasterCard, page 41

In Depth: IT Security

Oracle Security Exec Defends Patching Approach
Duncan Harris, Oracle's senior director of security assurance, says quarterly security updates are what its users want.

Patch Releases Come in Pairs
Oracle and Cisco issue software updates in an effort to plug security holes in their respective product lines.

Microsoft Downplays Windows Wi-Fi 'Anomaly'
Attackers could lure users to malicious wireless networks, but the vendor says there are ways to reduce the risks.

"We don't redo our internal discovered vulnerabilities."
DUNCAN HARRIS

NEWSPAPER

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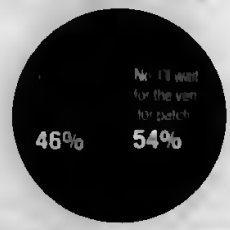

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Nasdaq Glitch Causes Stock Errors

A computer glitch at The Nasdaq Stock Market Inc. last Wednesday caused incorrect closing prices to be listed for a number of New York Stock Exchange-listed stocks traded through Nasdaq. Nasdaq blamed the glitch on "several problems" with its trade reporting interface to Securities Industry Automation Corp., which runs computer systems for the two exchanges and disseminates market data.

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Work on Oracle Corp.'s Fusion technology, which promises to link the company's myriad applications, is more than half done, according to Oracle President Charles Phillips. The technology is still slated to be ready in 2008, accompanied by rewrites of Oracle applications built internally and acquired. The company has also divulged plans to release Version 9.1 of its green-screen World applications in 2007.

Symantec Shipping Via LiveUpdate

Symantec Corp. has started delivering security product updates to users through its automatic LiveUpdate feature. The updates were previously delivered only with the company's annual release of new product versions. Symantec said it started pushing out updates through LiveUpdate in December to keep up with continually evolving threats.

Progress Buys SOA Management Vendor

Progress Software Corp. has agreed to acquire Web services management company Actional Corp. for $32 million. Progress plans to fold the acquired firm into its Sonic Software Corp. middleware business unit. The deal will pair Actional's tools for monitoring and governing service-oriented architectures (SOA) with Sonic's enterprise service bus, which connects and orchestrates services.

Offshore Firms Target IT Infrastructure Outsourcing

Indian vendors report big workforce gains, look to expand into new areas

BY PATRICK THIBODEAU

For most U.S. companies, a 30% year-over-year increase in employees without a major acquisition might make the national news. But in India, that kind of growth is becoming routine for IT services firms.

For example, Wipro Ltd. in Bangalore, India, said in its latest quarterly earnings report last week that its workforce had reached 51,000 employees as of Dec. 31 — up 30% from the start of 2005.

McCLASKEY
Perot does most of its hiring in India now

It's a similar, or even better, story at Bangalore-based Infosys Technologies Ltd., which said earlier this month that it had 49,400 workers as of Dec. 31. That amounts to a 40% year-over-year increase.

Those gains come as offshore firms and the Indian operations of U.S. vendors are seeking to expand into relatively new areas, such as IT infrastructure outsourcing.

Last month, Dallas-based Perot Systems Corp. started offering infrastructure management services from its facilities in India, where 6,000 of the company's 17,000 employees are based.

Mike McClaskey, Perot's CIO, said last week that the infrastructure work is a small part of the firm's business and that the Indian unit will provide the management services remotely. There's no cost advantage for a U.S.-based vendor to move servers to India, he said. Moreover, India still lacks the third-party disaster recovery facilities that are available in the U.S., McClaskey said.

But most of Perot's employee growth in recent years has been in India, according to McClaskey. He said he isn't worried that the rapid workforce growth will affect his ability to keep wages from rising too quickly or prevent him from finding people with the right skills in India.

Bangalore, where one of Perot's facilities is located, is India's equivalent of Silicon Valley, but the company also has an office in Noida, a suburb of Delhi. And McClaskey said there are several hundred other cities in India with the required skill levels and educational facilities, as well as a wage advantage over Bangalore.

'Labor Arbitrage'

"I think we are going to see labor arbitrage in India for a long, long time, and I think it's going to move around geographies inside of India," said McClaskey, referring to the practice of reducing costs through the use of lower-cost labor.

Wipro is also offering remote infrastructure-management services. Sridhar Ramasubbu, general manager of Wipro's financials and investor relations office in India, said infrastructure management now accounts for about 7% of the company's revenue, which totaled $617 million in the quarter that ended Dec. 31.

Pavan Chahal, managing director of NeoIT Inc., a consulting firm in San Ramon, Calif., that provides advice on using offshore services, estimated that infrastructure management will grow from between 5% and 10% of the market for offshore firms now to between 20% and 25% over the next two years. The trend will begin with help desk services and move up the IT scale toward outsourcing of functions such as storage management, Chahal predicted.

Creighton University in Omaha is doing a form of infrastructure outsourcing through a deal it signed last year to have Atlanta-based Cox Communications Inc. manage its communications services.

Creighton CIO Brian Young said he's unsure whether he would outsource management of his other IT systems. But he thinks IT managers have to investigate offshore providers and see what they can offer. "You at least need to know the numbers," Young said.

OFFSHORE WORK

Infrastructure Managers

The top three providers of infrastructure management outsourcing services in India during 2005, with estimated revenue figures:

1. Wipro Ltd.: $94 million
2. Tata Consulting Services Ltd.: $76 million
3. HCL Infosystems Ltd.: $64 million

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Gap Checks Out on Managing IT Internally

RETAILER Gap Inc. and IBM announced last week that they have signed a 10-year IT outsourcing deal valued at approximately $11 billion.

The San Francisco-based clothing retailer, which operates stores under brand names such as Gap, Banana Republic and Old Navy, is hiring IBM in an effort to streamline its IT operations and reduce costs. As part of the deal, about 400 Gap IT workers will be transferred to IBM's payroll.

IBM will manage the mainframes, servers and networks that support Gap's corporate offices and its 2,850-plus North American stores. The retailer will also hand over control of its help desk and deskside support operations, and the deal calls for IBM to install a new wireless network for Gap's stores.

Gap declined to make CIO Michael Tasoop available for comment on the outsourcing deal. IBM also wouldn't provide an executive for a telephone interview.

The estimated value of the outsourcing deal is approximate because some of the costs assessed to Gap will be based on its actual consumption of IT services. In addition, the contract includes a provision designed to keep Gap's costs down while ensuring that IBM's fees don't become "significantly higher" than the market rate for the services being provided, according to a filing that Gap submitted to the U.S. Securities and Exchange Commission.

To help accomplish that goal, the agreement allows Gap officials "to periodically perform benchmark studies ... to determine whether IBM's price for the services is consistent with the then-current market standards," the SEC filing said.

Most enterprise outsourcing contracts now include benchmarking provisions, with the cost usually split between the user and vendor, said Chris Engle, who heads Gartner Inc.'s benchmarking service.

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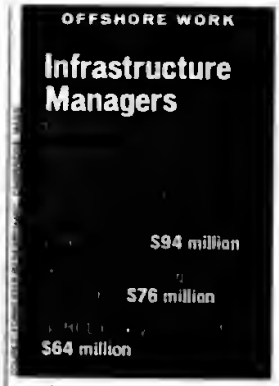

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– PATRICK THIBODEAU

Data Analysis Tools Can Deliver Competitive Advantage

If used widely with exec buy-in, tools can aid decision-making, panelists say

BY HEATHER HAVENSTEIN
NEW YORK

Companies can wield business intelligence as a weapon to outmaneuver competitors and boost revenue, but only if data analysis techniques are used enterprisewide and the effort is backed by senior management.

That was the view of users and experts sitting on a panel at the Competing on Analytics Symposium here last week.

If done right, enterprise-level analysis of data using BI tools can help organizations make key decisions about issues such as where to build manufacturing plants, how to bolster customer loyalty or how to increase market share, the panelists said.

Keith Coulter, managing director of consumer cards and loans at London-based Barclays PLC, said data analysis has been a core piece of a five-year effort launched by his company in 2000 to halt a sales decline and gain new customers against emerging competitors Capital One Financial Corp. and MBNA Corp., which is now owned by Bank of America Corp.

Coulter said analytics played a key role in Barclays' acquisition of 1.5 million new accounts during 2003. The total is three times more than the number of accounts added during 2001 and 2002 combined, he noted.

Coulter said analytics have since become central to the business. "This is now embedded in our business, embedded in how we work and how we compete," he said.

More-Accurate Decisions

In surveys of companies using analytics, Thomas Davenport, a professor of IT and management at Babson College in Wellesley, Mass., said he found that data analysis is helping them optimize key business processes such as setting prices and identifying valuable customers.

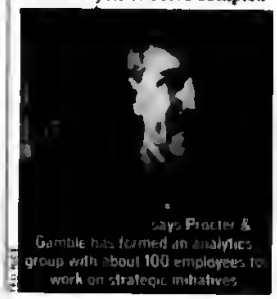
"Most of the time, analytic decisions are more accurate than those that are made with the gut," Davenport said, adding that success requires widespread use in an organization.

And senior executives need to be squarely behind such an effort, said Gary Loveman, chairman and CEO of Las Vegas-based Harrah's Entertainment Inc.

When Loveman came on board in 1998, Harrah's was struggling and had become a takeover candidate, he said. Loveman responded to those threats with a plan to use analytics to build customer loyalty — a plan so important that Loveman postponed work on projects that were not focused on customer loyalty.

Harrah's has since developed a program that assesses customer worth, tailors marketing programs to those customers and sets optimal prices for hotel rooms. Now, Loveman says, analytics is "the juice that makes the company go."

He acknowledged that using data analysis to solve complex problems is difficult but added that its benefits are well worth the effort.



says Procter & Gamble has formed an analytics group with about 100 employees to work on strategic initiatives

"The only way I did it is I ordered [employees] to do it," Loveman said. "If I were to disappear tomorrow and someone came in with different ideas, there is no question in my mind that this would be gone."

Deeper Knowledge

The Procter & Gamble Co. has used analytics since the 1930s, but the capability was spread throughout the organization only last year. In 2005, the Cincinnati-based consumer goods company formed an analytics group of about 100 employees to work on strategic initiatives, said Glenn Wegryn, associate director of global analytics.

The P&G analytics group functions as an internal consultancy and is paid by retainers from different business units. "We're not a fixed overhead tax to the business unit," Wegryn said.

Spreading data analytics systems throughout the enterprise can provide users with a deeper knowledge of business operations, the panelists said.

For instance, the analytics group at transportation logistics firm Schneider National Inc. was able to dissuade company officials from changing the rules associated with driver scheduling even after a pilot project suggested that changes were needed, said Ted Gifford, vice president of engineering and research at the Green Bay, Wis.-based company.

"We were able to go back and challenge some of the structure and assumptions of the pilot," Gifford said.

Microsoft Looks to Test WinFX Tools on Live Apps

BY ERIC LAI

Microsoft Corp. last week released what it described as "go live" beta versions of development tools for building Web services and workflow-enabled applications under the company's upcoming WinFX programming model.

The Windows Communication Foundation (WCF) and Windows Workflow Foundation (WWF) tools are due for commercial release later this year as part of the launch of Microsoft's Windows Vista client operating system.

But the updated beta releases have been put through additional reliability testing for software developers who want to deploy applications now, said Ari Bixhorn, director of Web services strategy at Microsoft.

In addition, Microsoft hopes that the new releases will generate more feedback about WCF and WWF from users who test the tools in real-world IT environments. "We want developers to really kick the tires," Bixhorn said.

WCF is designed to aid developers in creating server-based applications that use Web services to link companies with customers, suppliers and other business partners. The WWF software provides a workflow engine and a set of tools for building automated and manual business processes into server applications.

Easier to Use

Mark Nixon, a lead systems architect at Emerson Process Management, said the St. Louis-based company has been using WCF for the past 18 months to help write code that controls the industrial machinery it sells.

Nixon said WCF is more secure than the integration tools offered with previous Microsoft development frameworks, such as .Net and Component Object Model. The new tool is also easier to work with because it simplifies otherwise laborious tasks, he said.

"I can now have my software turn a monitor off without writing all sorts of low-level plumbing code," Nixon said, adding that his team has reduced development times by up to 25% with WCF.

Even so, Nixon said Microsoft could further improve ease of use for WCF. "They've done a lot, but there's still a lot to do," he said.

Although the WinFX components were initially being tailored for Windows Vista and other future releases of the operating system, applications built with the tools should now be able to run on Windows XP and Windows Server 2003, said Jason Bloomberg, an analyst at ZapThink LLC in Waltham, Mass.

WinFX is an object-oriented superset of the .Net Framework technology that will replace the Win32 application programming interface (API).

The third component of WinFX is Windows Presentation Foundation for designing user interfaces. Bixhorn said Microsoft isn't releasing a go-live version of that tool, because developers feel less pressure to start testing the applications they're building with the client-side technology.

The new programming model will be made available this year for Windows Server 2003 and the Service Pack 2 release of Windows XP in addition to Windows Vista, Bixhorn said.

He noted that Microsoft is using the WinFX tools internally to develop upcoming versions of its SharePoint Portal Server and BizTalk Server products.

Software Disclaimer

[illegible] versions of the "go live" beta releases should carefully [illegible] before deploying any applications

Potential technical problems: The WinFX tools are still pre-release technologies and may not function correctly.

Lack of support: No patches or other fixes will be provided, although informal support will be available on community Web sites.

Possible future incompatibilities: The APIs and functionality of the tools may be different in the commercial releases.

BRIEFS

HP Extends Reseller Pact With JBoss

Hewlett-Packard Co. has extended a reseller agreement with JBoss Inc. to include the open-source vendor's entire suite of enterprise middleware. HP last week began reselling and supporting the complete JBoss Enterprise Middleware Suite (JEMS) worldwide. HP had previously resold and supported JBoss Application Server. JEMS includes the application server, JBoss Portal and JBoss Cache.

Penguin Hires HP NonStop Server VP

Pauline Nist, former vice president and general manager of HP's NonStop server division, has joined Penguin Computing Inc. as senior vice president of product development and management. In her new post, Nist is responsible for the systems, clustering and software business lines at the maker of high-availability and high-performance Linux systems.

IBM Reports Strong Earnings, Flat Sales

IBM reported strong earnings, but sales, excluding those of the PC operations sold to Lenovo Group Ltd. last year, rose only 3% during the fourth quarter. Sales missed analyst estimates by about $1 billion.

IBM BY THE NUMBERS

	REVENUE	PROFIT
Q4 '05	$24.4B	$3.28
Q4 '04	$27.7B	$2.8B

BMC to Use XOsoft Replication Software

BMC Software Inc. and XOsoft Inc. signed an agreement allowing BMC to license XOsoft's WANSync replication software. BMC and XOsoft executives said the deal was the first of several. The companies will jointly work on integrating WANSync with BMC's SQL-BackTrack backup and recovery software, aiming to improve the BMC product's data-protection capabilities.

ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL

Reducing Data Center Risks . . .

. . . can reap rewards for IT. Given that market research firm IDC estimates that you spend 80% of your IT budget managing day-to-day operations, reducing the risk of common operational errors just might free up some of those dollars so you can divert them to more interesting technology investments. That's the proposition behind Sun Microsystems Inc.'s fancy new metric, the Operational Risk Index (ORI). Mike Harding, Sun's vice president of customer network services, claims that one in every 200 "admin touches" to systems results in an error condition of some sort that needs to be fixed. "You have a one-half-percent probability of having a problem just by going to work," he laments. But Sun can help you determine the likelihood and potential severity of server crashes and other risks inside your data center. Harding says Sun has done numerous studies of mixed IT environments at customer sites so it can look at yours and determine your ORI. For example, if your administrators have had Sun-certified training, the chances of them making a boo-boo on its systems are 59% lower, he says. In addition to user training, Sun analyzes system configurations, patch levels, security conditions and your specific IT operations processes. The better your ORI score, the bigger your discount on Sun's maintenance contracts, Harding says, adding that ORIs can be determined for both Sun and non-Sun gear.

Sun's ORI can provide ROI.

$750B Amount spent in 2004 on day-to-day IT operations says IDC

Systems management gets a new host . . .

. . . for your Windows PCs. On Feb. 1, WebEx Communications Inc. will make a hosted set of desktop systems management services available. Gary Griffiths, vice president of products at the Santa Clara, Calif.-based vendor, says the WebEx Systems Management Services offering will provide a variety of capabilities often handled by on-premises software, including discovery and management of IT assets, software distribution, patch management, virus protection and online data backup. Backups are done over the wire with 128-bit encryption, Griffiths says. He adds that although IT admins will connect to the service via the Internet, it runs over WebEx's proprietary MediaTone global network, which has 39 distributed clusters of switches and routers to ensure a higher degree of reliability than the public network. The Windows-only service starts at $5 per seat on a monthly basis and is being offered in English, Spanish, Japanese, Chinese and Korean versions.

$7.3B Gartner forecast of size of system management software market in 2008

Intel chips boost the Mac's fortunes . . .

. . . inside big companies. That's because the Macintosh has now "crossed two of the three barriers to enterprise computing," says Scott Parkin, a product manager at LANDesk Group Ltd. in South Jordan, Utah. Parkin says the first barrier was the need for a Unix-based operating system, which Apple Computer Inc. provided with its Mac OS X software. The second was, of course, the need for Apple to build Intel-based hardware — mission accomplished with the dual-core laptop and iMac systems it announced this month. The third barrier will be crossed when end users can run Windows on Macintosh machines, Parkin says. No one expects Apple to ship and support Windows. But, Parkin says, "market dynamics will mean someone will come out with a back to run Windows on the Mac." The likely scenario will have one of Intel Corp.'s processor cores running OS X and the other running Windows, he says. LANDesk has already ported its client code to the Intel-based Macs and will make the expanded software available this week for users of its systems and security management suites. Parkin says any company with 5,000 or more PCs has plenty of Macintosh systems on its network. Most of those Macs are "self-managed," he suggests. But in the new era of regulatory compliance, Parkin thinks IT managers will want to keep a closer eye on their heretofore unfettered populations of Mac users.

Mobile device adds a new dimension . . .

. . . to laptop computing. If you have performance-craving end users who complain about their pokey laptops, consider the NextDimension mobile PC from NextCom LLC in Nashua, N.H. Bob Labadini, NextCom's chief technology officer, cautions that his machine "is not for everybody. It's for those who run high-performance applications." Indeed. This puppy can be outfitted with up to 16GB of memory, two dual-core Opteron processors, three 1Gbit/sec. Ethernet ports and an internal RAID 5 system with up to 1TB of SCSI storage capacity. The machine can be partitioned to run Solaris, Linux and Windows for either 32- or 64-bit applications. Labadini says that by year's end, NextCom expects to add support for up to eight Opteron cores and as much as 32GB of RAM. Pricing starts at $4,500, and the system comes in a ruggedized attaché case. If your mobile users need more power than it provides, get them a mainframe and a pickup truck.

NextCom's mobile powerhouse isn't for everybody.

MULTIPLE PHONE NUMBERS ARE A HASSLE EVERYONE HAS TO LIVE WITH.

FACT #31:

WITH AVAYA IP TELEPHONY, JUST ONE NUMBER CAN REACH YOU ANYTIME, ANYWHERE.

AVAYA

COMMUNICATIONS
AT THE HEART OF BUSINESS

In Depth
IT Security

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Security

and networking software become more prominent targets of cyberthreats that previously were aimed at operating systems, particularly Windows.

For instance, more than one-third of the top 20 Internet security vulnerabilities listed by the SANS Institute as part of an annual report released in November involved flaws found in application, security and data backup software.

Last week, Oracle released a quarterly roundup of software patches designed to fix 82 vulnerabilities — many of them rated "critical" by the company. Cisco Systems Inc. also issued patches last week for several flaws affecting its routers and Call Manager software. And EMC Corp. released a set of patches for its NetWorker backup software.

Such disclosures highlight the fact that Microsoft isn't the only vendor with security problems, although it often gets the most criticism, said Steven Gelfound, IT director at the National Center for Missing & Exploited Children in Alexandria, Va.

"They're just in a situation where everyone is gunning for them," Gelfound said. "[But] it's not that any one operating system or application is more secure than the other. Given enough time and computing resources, you can crack just about anything out there."

In fact, based on information provided by each of the vendors, Microsoft disclosed a total of 12 vulnerabilities over the past three months, compared with 167 for Oracle, 18 for Cisco and eight for Sun Microsystems Inc.

> **"Microsoft has developed a strategy and a vision around security and vulnerabilities that they just didn't have a few years ago. It's hard to point to a single vendor who is doing a better job."**
>
> **LLOYD HESSION,** CHIEF SECURITY OFFICER, BT RADIANZ

Center of Attention

A lot of the attention that Microsoft gets has to do with the fact that its security vulnerabilities typically "cause the most pain" because of its huge user base and the arduous task of patching desktop PCs, especially inside large companies, said John Pescatore, an analyst at Gartner Inc.

Microsoft is also an obvious target for malicious hackers, who often put the company's flaws in the public eye. For instance, users earlier this month pressured the company to release a patch for the so-called Windows Metafile flaw in advance of its usual monthly security updates because attackers were actively trying to exploit the vulnerability.

Because of those factors, "Microsoft is held to a higher standard, which lets other vendors get away with practices that Microsoft would have gotten creamed for," Pescatore said. Oracle, for one, rarely divulges the details of the vulnerabilities in its products as completely as Microsoft does with its flaws, according to Pescatore. That makes it hard for Oracle users to do risk assessments or prioritize their patching plans, he said.

"Oracle has sort of this 'Trust me, I know what I'm doing' attitude with their customers," said Jon Oltsik, an analyst at Enterprise Strategy Group Inc. in Milford, Mass. "With the security community, they've got an antagonistic attitude. As more difficult or esoteric attacks begin to happen, that's not a recipe for success."

Patch quality also remains a big issue for Oracle, said David Litchfield, managing director of Next Generation Security Software Ltd., a security research firm in Surrey, England. "Every critical patch update so far has been flawed in some fashion or the other and has been rereleased multiple times," said Litchfield, whose firm has uncovered several vulnerabilities in Oracle products, including one covered by last week's patch release.

Vendors such as Cisco, Sun and Red Hat Inc. also aren't as forthcoming as Microsoft in sharing vulnerability information that can help users mitigate their exposure to threats, said Michael Sutton, director of VeriSign Inc.'s iDefense Labs unit in Reston, Va.

Some vendors have gone to great lengths to prevent security researchers from disclosing details about certain vulnerabilities. Last July, Cisco won a court injunction preventing a researcher from publicly discussing a hack of its router software. The company even compelled the organizers of the Black Hat USA conference to destroy CDs and rip out more than 30 pages containing slides about the vulnerability from the conference proceedings. Last March, Sybase Inc. temporarily threatened to sue Next Generation Security if it published details on eight security flaws in Sybase's database software.

Cisco and Sun don't follow a regular schedule for releasing patches and instead roll them out as the fixes for the flaws become available, which makes the patching process less predictable for users, analysts said. In addition, Cisco doesn't rate its flaws, leaving it up to IT administrators to decide how serious a vulnerability may be.

"Of all the vendors we deal with, Microsoft is one of the best in terms of the processes they have in place" for addressing security threats, Sutton said. That includes having formal procedures for vulnerability discovery and assessment, patch development, testing and automated distributioo, as well as a predictable

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Oracle Exec Says Users Are Getting Enough Flaw Info

As senior director of security assurance at Oracle, **Duncan Harris** is in charge of its vulnerability remediation processes. He also manages a team of "ethical hackers" at Oracle's Redding, England, software lab who work to find flaws in the vendor's products. Following Oracle's latest quarterly patch release last week, Harris spoke with *Computerworld* about the company's patching policies and its relationship with the IT security community.

Oracle just announced patches for 82 vulnerabilities. Why so many? We don't hide our internally discovered vulnerabilities. When we discover something internally, we still mention it in our Critical Patch Updates. Other vendors, as the security community knows, may be doing silent fixes. It is something we don't believe in. That is part of the explanation for the large number of vulnerabilities. Certainly, there is also much more attention being paid to Oracle for whatever reason.

Critics say Oracle doesn't share enough vulnerability information for users to make proper risk assessments. Why don't you disclose more details? As part of our exercise to work out with customers what the regular schedule for our patches should be, we talked to them about the level of information they required in order to understand sufficiently whether they were affected by a vulnerability and what the impact would be if the vulnerability was exploited. We listened very carefully to that, and we have come up with a system where we identify in risk matrices for every one of our product stacks the nature of each of the vulnerabilities that we fix within a quarterly patch update. We believe that it is sufficient information for our customers. Our advisories are for our customers' benefit. They are not for the benefit of the security community.

Are quarterly updates good enough for users? The comparison is quite clearly with Microsoft's monthly updates. You have to remember that Windows updates are clearly aimed at client machines. Oracle has client-side products, some of which are quite important, but our fundamental focus is on the server side. Comparing this to the monthly patching that Microsoft does is like comparing apples and oranges. It really is quite different to have a systems administrator patch a server-side system and a small client.

Why do you think the security community is so unhappy with Oracle? In terms of working with the security community, we work very well with those that are happy to abide by the security vulnerability handling processes that we have published on our Web site for anyone to see. There are others who for their own good reasons choose to pressure us and put our customers at risk by a partial or early or zero-day disclosure of vulnerabilities in Oracle products. I assume that is part of their marketing method to potentially increase their consulting business. Our "Unbreakable" [database advertising] campaign was also a bit of a red flag, which may be another reason why there is so much attention being paid to Oracle by security researchers.

How long does it take for Oracle to fix flaws? It absolutely depends on their severity. The Critical Patch Update that we [just] issued – one of the vulnerabilities there was reported to Oracle in November. There is another that was reported to Oracle 800-plus days ago by external researchers. That is not something we are proud of, [but] it points to the fact that we fix vulnerabilities in order of severity. We are making substantial efforts to refine the infrastructure such that reports of vulnerabilities being more than two years old should be a thing of the past. Perhaps in a year's time it will be. But I do anticipate that for the remainder of 2006, you will see security researchers declaring that vulnerabilities they reported two years ago have just been fixed.

– JAIKUMAR VIJAYAN

Confessions of the World's Most Demanding CIOs

"We have met the competition, and it is us."

An OOCL container ship is only the most visible element of an enormously complex enterprise that moves goods from say Shanghai to Kilkenny

With our IT we do that better than our competitors So we compete against our own benchmarks

HP helped us get there – to migrate from mainframe to open systems, and to adopt standards-based technology for real-time communication with partners So OOCL can adapt to market-driven changes much faster than other carriers

Today IT costs have dropped sharply and we project double-digit growth for the next five years

Now we ll try to beat that

-Ken Chih CIO

adaptive enterprise

hp

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BRIEFS

Japan Chip Makers Study Joint Venture

Three Japanese semiconductor makers have agreed to explore the possibility of creating a joint venture to handle future production for their companies and others. Toshiba Corp., Hitachi Ltd. and Renesas Technology Corp. are establishing a joint planning company to examine whether to pool resources and jointly build a chip production plant. The new planning company has been named Advanced Process Semiconductor Foundry Planning Co.

Intel Q4 Sales Come In Below Forecast

Intel Corp.'s revenue came in below its own updated forecast for the fourth quarter of 2005 because shipments of desktop processors were lower than expected.

INTEL BY THE NUMBERS

	Revenue	Profit
Q4 '05	$10.2B	$2.5B
Q4 '04	$9.0B	$2.1B

Microsoft Issues Patch for Vista OS

Microsoft Corp. has issued a patch for a preliminary version of its Windows Vista operating system to fix the same graphics-rendering problem that had earlier raised concerns about current versions of Windows. The patch applies to the Community Technology Preview of Vista, which was released in December. Vista isn't due for general release until later this year.

ACS Says It's No Longer for Sale

IT services outsourcing vendor Affiliated Computer Services Inc. has halted negotiations with a group of private equity investors interested in buying the firm. Company officials said ACS is no longer for sale. The company also said it has rejected a recapitalization proposal as a way to shore up value. ACS plans to continue to explore other options for boosting its value.

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patching cycle, he said.

Microsoft has also shown a growing willingness to work with security researchers who discover flaws, according to users and analysts.

Because of such efforts, Gartner no longer believes that there is any difference as far as security is concerned between Windows Server 2003 and rival operating systems such as Solaris, HP-UX and AIX, Pescatore said. But, he added, the planned launch of Windows Vista later this year will be a key milestone in Microsoft's effort to prove that it has made real progress on improving its security procedures. "It will be the first desktop OS to ship after they said they are getting serious about security," Pescatore noted.

"Their biggest problem now is trying to get past all of the negative legacy perceptions," said Hugh McArthur, director of information systems security at Chantilly, Va.-based Online Resources Corp., which offers online banking and bill payment services to the financial industry. McArthur added that he would give Microsoft "an A for effort and a B+ for execution" on security issues.

Oracle's Strategy

Executives at Oracle and Cisco defended their companies' security approaches. Oracle's vulnerability remediation and response strategies are very customer-focused, said Duncan Harris, the company's senior director of security assurance. He said Oracle's decision to move to a quarterly update schedule last January was based on feedback from database administrators, who said they would prefer a longer gap between updates.

Similarly, Oracle's decision to limit the amount of vulnerability information it discloses is driven solely by the interests of users, Harris said. "Our advisories are for our customers' benefits," he said. "They are not for the benefit of the security community." Harris claimed that more-complete disclosures of the sort issued by Microsoft only increase the security risks faced by users.

Oracle's centralized vulnerability handling group has been working over the past two to three years to ramp up its processes for developing, testing, porting and distributing patches, Harris added.

Cisco officials have said that their response to the vulnerability disclosure at the Black Hat conference was reasonable because they were trying to protect the vendor's intellectual property and prevent the release of information that attackers could use as instructions for targeting routers.

Last week, Mike Caudill, Cisco's product security incident manager, said it plans to continue releasing security fixes as they become available instead of making users wait for periodic updates. And it's unlikely that Cisco will start rating the severity of its flaws.

"Our approach is to explain the risk and not say if it's a 'red' or a 'yellow' or a 'green,'" Caudill said. "We'll explain the problem and let customers decide" what to do.

Caudill said Cisco has a long tradition of working with security researchers who find vulnerabilities in its products. But, he added, researchers need to be more consistent in the manner in which they disclose flaws to vendors. ▸

Oracle, Cisco Move to Plug Security Holes

THE SOFTWARE PATCHES released by Oracle last week are designed to fix 82 security vulnerabilities affecting the company's databases, application server software, collaboration tools and E-Business Suite 11i applications.

Patches also were issued for products in the PeopleSoft and J.D. Edwards application portfolios that Oracle acquired when it bought rival PeopleSoft Inc. last January.

A majority of the flaws identified in Oracle's database software were listed as potentially having a "wide" effect on database availability, integrity and confidentiality.

Under its Critical Patch Update program, Oracle works to develop highly integrated patches that combine fixes for multiple high-priority vulnerabilities. The patches are cumulative, meaning that users that don't apply patches one quarter can install an all-inclusive update the following quarter that addresses the previous problems and any new ones that have cropped up.

Duncan Harris, Oracle's senior director of security assurance, said Oracle has had to "substantially change" parts of its internal security infrastructure over the past few years in order to keep up with the increasing number of vulnerabilities it's tracking. About 75% of the flaws are discovered internally, he said. But he noted that security researchers as well as malicious hackers have been turning their attention more and more to software above the operating system level.

"Oracle has made a great deal of improvement over the past year in their security response processes, but there is still a long way to go," said David Litchfield, managing director of Next Generation Security Software. Litchfield discovered one of the vulnerabilities addressed by Oracle last week, a so-called PL/SQL injection flaw that could allow users with limited privileges to gain administrative control of the company's databases.

Meanwhile, Cisco Systems issued three patches last week. One is designed to plug a flaw in devices that use the company's Internetworking Operating System software and have a little-known protocol called the Stack Group Bidding Protocol enabled.

That vulnerability probably doesn't affect a lot of Cisco users because the SGBP isn't widely used, said Johannes Ullrich, chief research officer at the SANS Institute, a security training and research firm in Bethesda, Md.

The two other flaws are in Cisco's Call Manager software and could be exploited to launch denial-of-service attacks against devices running the software, Ullrich said.

– JAIKUMAR VIJAYAN, WITH ROBERT McMILLAN OF THE IDG NEWS SERVICE

PATCHING POLICIES

Vendor	Patch release schedule	Tools for automated delivery of updates	Tools for detecting updates	Flaw severity ratings
MICROSOFT	Monthly	**Yes** (Microsoft Update, Windows Software Update Services)	**Yes** (Microsoft Baseline Security Analyzer, Enterprise Update Scanning Tool)	Rates severity of flaws as critical, important, moderate or low
ORACLE	Quarterly	**Yes** (no further information provided)	**Yes** (no further information provided)	Rates risks to software integrity, availability and confidentiality
SUN	Releases fixes as they become available	**Yes** (Sun Update Manager and Update Connection)	**Yes** (Sun Update Connection)	Doesn't rate vulnerabilities, all patches are considered critical
CISCO	Releases fixes as they become available	**No**	**No**	Doesn't rate vulnerabilities (but customer advocacy group does)

BRIEFS

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Patches also were issued for products in the PeopleSoft and J.D. Edwards application portfolios that Oracle acquired when it bought rival PeopleSoft Inc. last January.

A majority of the flaws identified in Oracle's database software were listed as potentially having a "wide" effect on database availability, integrity and confidentiality.

Under its Critical Patch Update program, Oracle works to develop highly integrated patches that combine fixes for multiple high-priority vulnerabilities. The patches are cumulative, meaning that users that don't apply patches one quarter can install an all-inclusive update the following quarter that addresses the previous problems and any new ones that have cropped up.

Duncan Harris, Oracle's senior director of security assurance, said Oracle has had to "substantially change" parts of its internal security infrastructure over the past few years in order to keep up with the increasing number of vulnerabilities it's tracking. About 75% of the flaws are discovered internally, he said. But he noted that security researchers as well as malicious hackers have been turning their attention more and more to software above the operating system level.

"Oracle has made a great deal of improvement over the past year in their security response processes, but there is still a long way to go," said David Litchfield, managing director of Next Generation Security Software. Litchfield discovered one of the vulnerabilities addressed by Oracle last week, a so-called PL/SQL injection flaw that could allow users with limited privileges to gain administrative control of the company's databases.

Meanwhile, Cisco Systems issued three patches last week. One is designed to plug a flaw in devices that use the company's Internetworking Operating System software and have a little-known protocol called the Stack Group Bidding Protocol enabled.

That vulnerability probably doesn't affect a lot of Cisco users because the SGBP isn't widely used, said Johannes Ullrich, chief research officer at the SANS Institute, a security training and research firm in Bethesda, Md.

The two other flaws are in Cisco's Call Manager software and could be exploited to launch denial-of-service attacks against devices running the software, Ullrich said.

– JAIKUMAR VIJAYAN, WITH ROBERT McMILLAN OF THE IDG NEWS SERVICE

PATCHING POLICIES

Vendor	Patch release schedule	Tools for automated delivery of updates	Tools for detecting updates	Flaw severity ratings
MICROSOFT	Monthly	Yes (Microsoft Update, Windows Software Update Services)	Yes (Microsoft Baseline Security Analyzer, Enterprise Update Scanning Tool)	Rates severity of flaws as critical, important, moderate or low
ORACLE	Quarterly	Yes (no further information provided)	Yes (no further information provided)	Rates risks to software integrity, availability and confidentiality
SUN	Releases fixes as they become available	Yes (Sun Update Manager and Update Connection)	Yes (Sun Update Connection)	Doesn't rate vulnerabilities, all patches are considered critical
CISCO	Releases fixes as they become available	No	No	Doesn't rate vulnerabilities (but customer advocacy group does)

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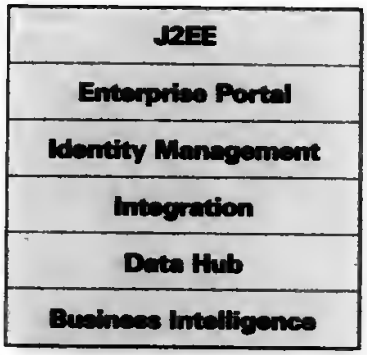

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ES&S Backs Out of $1.8M E-voting Deal

Leon County, Fla., starts new search for equipment

BY MARC L. SONGINI

ELECTION OFFICIALS in Florida's Leon County are scrambling to comply with state and federal voting laws after the county's preferred vendor for optical scan voting systems backed out of an informal deal.

The Leon County Commission had turned to Election Systems and Software Inc. (ES&S) after voting last month to replace 160 AccuVote optical scan voting machines from Diebold Election Systems Inc. because of fears that the AccuVote machines may not comply with laws on handicapped accessibility. The commission also questioned the accuracy of the Diebold machines.

ES&S had informally agreed to a $1.8 million deal to supply its AutoMark optical scan gear to Leon County. The county had expected that the equipment would help it meet the requirements of the federal Help America Vote Act (HAVA) and Florida election laws.

All U.S. voting precincts were required by HAVA to have touch-screen or specially equipped optical-scan devices by Jan. 1, 2006. Leon County Elections Supervisor Ion Sancho said last week that he doesn't expect to face penalties as long as the county is working to get equipment.

Sancho said that he couldn't explain why Omaha-based ES&S backed out of the proposed deal, which had included agreements on price, terms and equipment.

In an e-mail statement, ES&S also offered no specific reasons for its decision. "Toward the end of last year, we were presented with the possibility of entering into a long-term relationship with the county," an ES&S spokesman said. "After a great deal of careful consideration, we made the decision [on Dec. 29] not to enter into an agreement to provide equipment and services to the county.

"After evaluating all of the information available to us at the time, we determined that we were unlikely to have an effective partnership with the county," the spokesman said.

> **"I've got two major entities in the elections business that simply don't have the time to deal with Leon County."**
>
> **ION SANCHO,** LEON COUNTY ELECTIONS SUPERVISOR

The county had expected to have ES&S voting systems in place for the next federal election and to gain federal grant money to help pay for them.

Sancho said approval of any federal grants for the equipment is now in jeopardy as the county begins a new search for voting machines that meet state and federal guidelines. The options include once again turning to Diebold equipment or choosing another vendor, he said.

"At this point, it's not clear what we'll do," said Sancho. "I've got two major entities in the elections business that simply don't have the time to deal with Leon County."

Sancho has been public with his doubts about the reliability of electronic voting gear; he even sponsored test hacks into the county's Diebold AccuVote optical scan systems — a move that led to a somewhat strained relationship with Allen, Texas-based Diebold. ▸

Correction

An item in the Jan. 9 issue's On the Mark column incorrectly listed the size of new disk drives that Breece Hill LLC in Louisville, Colo., plans to add to its iStore 60 data backup and archiving device by year's end. Breece Hill said the drives will have a storage capacity of 500GB.

Expert Calls for Increased E-voting Security

BY MARC L. SONGINI

Herbert Thompson, *director of research at Wilmington, Mass.-based Security Innovation Inc., is a co-author of several books, including* How to Break Software Security *(Addison Wesley, 2003). He volunteered last May and again last month in Leon County, Fla., to hack an optical scan system made by Diebold Elections Systems Inc., after county officials voiced fears about the system's accuracy and security. Thompson recently discussed the result of the test hacks in an interview with* Computerworld.

Can you provide some details of your effort to hack into Leon County's Diebold e-voting machines on Dec. 13? We conducted a hack of the Diebold AccuVote optical scan device. I wrote a five-line script in Visual Basic that would allow you to go into the central tabulator and change any vote total you wanted, leaving no logs. It requires physical access to a machine.

In Leon County, they have good policies and procedures in place. But in many counties, where such awareness doesn't exist, that brings up some serious concerns about someone being able to tamper with the results.

[Finnish security specialist] Harri Hursti [who also took part in the hacking exercise] changed the contents of a memory card used in the optical scan device and preloaded it. If you can get access to the memory card, you can change its logic and have it do whatever you want. That hack was like prestuffing a ballot box to handicap one candidate by giving them negative votes and giving another positive ones.

Do you think e-voting security has become a political issue? I'm strictly an independent person donating my time. It's not political. Bad software is the issue. I'm a software security guy. I see a lot of bad software. All software has security vulnerability — this is just particularly bad. As an election official, you have to be wary when touching a tabulator or a memory card; it has to be treated like a box of live ballots.

How do you respond to Diebold's claims that the hacks were unfair? I would love to do a demonstration where Diebold participates. There are certainly other voting companies that make tabulation software as well as optical scan gear, and we're seeing the same vulnerabilities as we've seen in Diebold's systems, which raises a broader question. That's about whether the verification and validation processes these machines go through are woefully inadequate or not. The e-voting companies aren't volunteering their systems for independent audits and analysis.

Is the security in e-voting up to the standards that business executives would demand in their applications? No way. Definitely not. Five years ago, yes, but in the current climate, no. These guys are betting their critical business processes on software. They need to consider who might do harm to that system. This level of rigor isn't applied to e-voting systems.

What should be done? There should be much more severe security-testing requirements. The key is you need to raise awareness that these vulnerabilities do exist and can be exploited, and you need a way of measuring security. ▸

Diebold Calls Fla. Hacks Invalid

DIEBOLD Election Systems last week called the two tests of its electronic voting systems in Leon County, Fla., invalid.

In fact, the Allen, Texas-based vendor contends that Leon County Elections Supervisor Ion Sancho's decision to sponsor hacks of the system in June and December may have violated licensing agreements and intellectual property rights.

A Diebold spokesman said the Dec. 13 hack, described by participant Herbert Thompson in an interview with Computerworld last week (see story, at left), was perpetrated on equipment that's more than 10 years old. The far more sophisticated security on Diebold's new touch-screen voting machines would prevent such an attack, the spokesman said.

He said that even the older optical-scan machines are vulnerable to hacks only when normal security procedures aren't followed.

"Even the older memory cards are sealed in the machines after pre-election testing is complete," he said. "The cards are not given to third parties for hacking purposes, as was done during the demo. If any of the seals are broken or there is any hint of a security breach, the paper ballots can be recounted."

The spokesman also noted that Diebold regularly updates the security of its products, and the changes are immediately made available to customers.

– MARC L. SONGINI

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GLOBAL

An International IT News Digest

IT Limits Put Early Stop To Tokyo Stock Trades

TOKYO

TOKYO STOCK Exchange Inc. was forced to halt trading 20 minutes earlier than usual last Wednesday when its computer system nearly reached its daily processing capacity of 4.5 million trades. The IT problems also prompted the exchange to shorten its trading day by 30 minutes for what it said was "the foreseeable future."

Wednesday's early shutdown, the latest in a string of IT-related woes to hit the exchange, came after officials warned during the lunchtime break that trading would end if the volume of trades reached 4 million for the day.

In earlier incidents, faulty software caused erroneous trade orders, and trading was disrupted when a software patch was incorrectly applied to the exchange's trading system. Those problems prompted Takuo Tsurushima to resign as the exchange's president late last year.

"The exchange has been extremely active in promoting Internet trading, but on the other hand, they don't have the infrastructure ready to handle such surges [in trading volumes]," said Noriko Hama, a professor at the Doshisha University School of Management.

■ MARTYN WILLIAMS, IDG NEWS SERVICE

GLOBAL FACT

The estimated amount of money, equal to $12.7 billion U.S., to be spent on public-sector IT efforts for the 2012 London Olympic Summer Games.

SOURCE: KABLE LTD., LONDON

British Lawmakers Question ID Card Plan

LONDON

THE BRITISH government's effort to implement a national identity card program is facing opposition from members of parliament who are demanding a more detailed accounting of costs and more information on how personal data will be protected.

The House of Lords last week passed three amendments to the Identity Cards Bill, as members questioned the Home Office's estimate that the program would cost £584 million ($1 billion U.S.) per year. Last year, the London School of Economics estimated that the ID card costs would total at least £10.6 billion ($18.7 billion) over 10 years, including the rollout of a massive IT system.

The amendments require that the government provide additional accounting of the expected costs, that a secure method of storing personal information be adopted and that the ID cards be used only to prevent illegal or fraudulent access to public services.

■ JEREMY KIRK, IDG NEWS SERVICE

U.K. Council Pulls Out Of Fujitsu Services Deal

WALSALL, ENGLAND

A YEAR AFTER approving a 12-year, £650 million ($1.1 billion U.S.) contract proposal to outsource its constituent services operations and related IT systems to Fujitsu Services Ltd., the council for the West Midlands borough of Walsall this month said it has rejected the plan.

Fujitsu Services was to supply technology and support for new service centers, plus a facility housing high-tech manufacturing capabilities, a cyberskills laboratory and a technical design center. But the Walsall Metropolitan Borough Council and the unit of Tokyo-based Fujitsu Ltd. never signed the contract.

"They felt their service levels had gone up over a period of 12 months, and they didn't feel they wanted to outsource to anybody," said a spokesman for Fujitsu Services. ▸

■ NANCY GOHRING, IDG NEWS SERVICE

Compiled by Mike Bucken.

Briefly Noted

Free Standards Group Inc., a nonprofit group that promotes standards for open-source software, has opened a lab in Beijing to certify that Linux applications developed in China meet the Linux Standard Base specifications. The lab is being run by the group and the China Electronics Standardization Institute.

■ SUMNER LEMON, IDG NEWS SERVICE

The National Association of Software and Service Companies (Nasscom) in Delhi, India, last week launched an online registry for the country's IT and business process outsourcing workers. The National Skills Registry is aimed at improving security by providing companies with information about potential employees, Nasscom said.

■ JOHN RIBEIRO, IDG NEWS SERVICE

Asustek Computer Inc., a Taipei-based maker of computer motherboards, has received final government approval to acquire networking device maker Askey Computer Corp. Asustek's purchase of Askey, which is also based in Taipei, will cost 7.82 billion new Taiwan dollars ($244 million U.S.) and is slated to close on March 1.

■ DAN NYSTEDT, IDG NEWS SERVICE

U.S. Innovation Not Hurt by Expanding Foreign Research

Microsoft exec says worldwide operations complement U.S. work

BY JOHN RIBEIRO

Innovation has always been a global endeavor, and Microsoft Corp. works hard to take advantage of technical talent throughout the world, says **Rick Rashid,** *senior vice president of Microsoft Research, the company's research and development arm. Rashid was in Bangalore last week for a research conference hosted by his unit's Indian lab and spoke to IDG News Service about Microsoft's research focus, the globalization of R&D and its effect on the state of innovation in the U.S.*

Is the spread of offshore research operations blunting innovation in the U.S.? Innovation has always been a global enterprise. If you look at the field of computer science, even within the U.S. about half of all Ph.D.s are given to people that were not born in the U.S. Innovation has always been a global enterprise, and I just see that continuing.

What is the effect on U.S. innovation of those migrant Ph.D.s moving back to their home countries to start new businesses or join foreign research operations? I don't tend to think of things that way. I look at it and [ask] how as a global community can we move the state of the art forward. I am trying to hire the best people I can, and if that means creating labs in other parts of the world, that is what I do. I don't spend a lot of time worrying about how many people I have here or there. If I can hire great people in India, I am going to hire great people in India. If I can hire great people in China, I am going to hire people in China. If I can hire great people in the U.S., I am going to hire great people in the U.S.

Do multinational companies like Microsoft face pressure to create research groups in various countries to help in building localized products? There is no pressure to do that. The reason we start research labs in different parts of the world is because we are trying to attract smart people. The first goal is to move to where the talent is and hire the best people we can.

What areas of research is Microsoft focusing on today? We do research in more than 55 different areas. We do work in computer vision, in image editing, graphics and 3-D imagery. We also do work in software engineering technologies, which are of course critical to Microsoft. We also do work, for example, in AIDS research. We are not just doing core computer science but also work on the fringes, whether that may be biology, may be physics and other areas.

How do you think the research will translate into Microsoft products? I have a team of people whose full-time job it is to take the work that is coming out from research and find ways of getting them into our products. The key thing is that you work very creatively finding uses for technology.

Almost everything I can think of that we have done has wound up in some product at some point. We don't usually know whether that is going to happen. We started a computer vision group, for example, before any product in Microsoft could conceivably use it. We started working in media, such as streaming media and digital media, before there was anything in the company that was doing it as a product. We started working in graphics before anybody in the company was doing 3-D graphics. ▸

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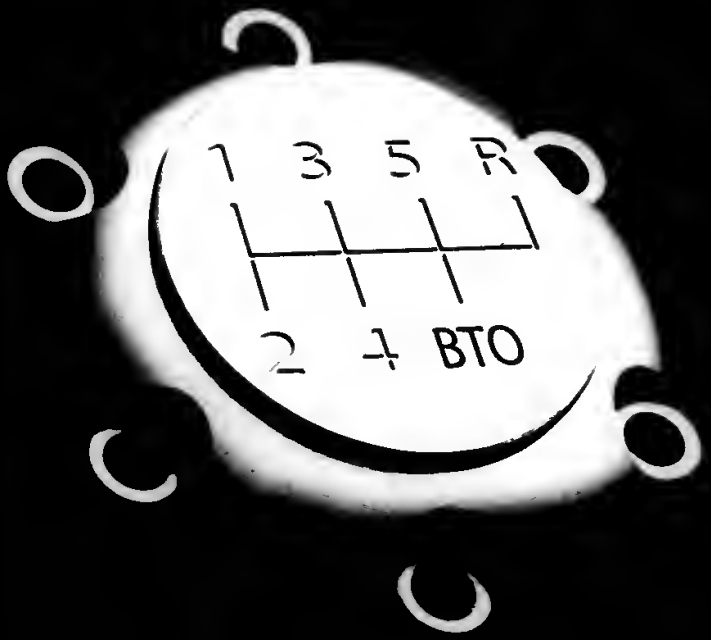

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Unfurling the Flag

I HAVE very little patience for government-bashing. As someone who worked for the National Security Agency during the Reagan administration, I can attest that there are some incredibly sharp, talented, dedicated people working for the federal government.

Given that background, I'm especially impatient with anyone who's quick to criticize those who work for any of the security-related agencies. These people make some pretty amazing sacrifices, like being subjected to intense scrutiny of their personal lives. Unless you've been strapped to a polygraph and grilled on things like your association with non-U.S. citizens, it's impossible for you to appreciate what these individuals give up in order to serve their country.

All of that said, these agencies and their employees have a sacred duty to protect us; consequently, they need to be held to an extraordinarily high standard. They're hardly infallible, so they make mistakes. And when they do, corrective measures need to be taken immediately.

That can be a very complicated endeavor. Take the case of Russell Tice, the NSA whistle-blower who has identified himself as a source for the recent *New York Times* story that broke the news of the agency eavesdropping on U.S. citizens without a warrant. I don't know whether Tice is the psychotic that the NSA reportedly claims he is, or the courageous patriot that some in the media are making him out to be. I will say that if his motives were noble ones, I have to wonder why he's going to the lengths he is to grab the spotlight. It just goes to show that red, white and blue isn't black and white.

In any case, it's easy for me to call attention to security agency screw-ups now, because while I have nothing to gain, I have nothing to lose, either. So I can't let the Department of Homeland Security news that we covered last week slip by without comment.

Computerworld's Jaikumar Vijayan reported that the DHS is spending $1.24 million on a project designed to improve the security of open-source software ("DHS Funds Effort to Find Flaws in Open-source," Jan. 16). The money is being paid to Stanford University, Symantec and source-code analysis vendor Coverity to build and maintain a database of bugs they find in open-source apps.

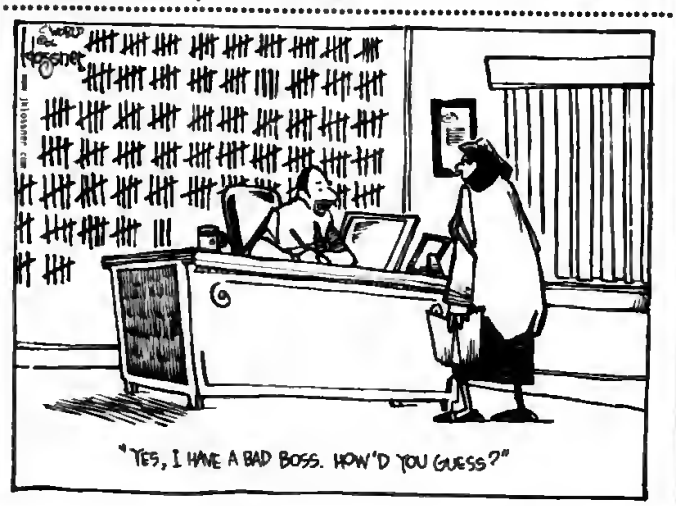
Editor at large Mark Hall and I were discussing this development last week, and he pointed out that the inherent beauty of open-source methodology is that it has built into it the means to identify and fix flaws. He's right. Institutionalizing that process stands to rob the methodology of the informality that has been the very hallmark of its success.

"If the DHS insists, as bureaucracies are apt to do, that open-source must be certified via a sanctioned, formal process, it will interfere with the informal process of open-source itself," Hall says. "It seems to me the DHS is trying to turn an open-source development project into a Microsoft (or IBM or Oracle) software development project. And we know what that means: more, not fewer, errors — security and otherwise."

Hall wonders, as I do, whether that $1.24 million couldn't have been better spent. He wonders, as I do, how much progress that money could yield in finding ways to improve, say, the security of containers coming into our ports or cargo being shipped on our airliners.

I don't claim to be unfurling a patriotic flag by exposing some huge misdeed. But the DHS has unfurled a bright red flag of poor judgment here, and it can't be allowed to wave unheeded.

Don Tennant



DAVID MOSCHELLA

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ADVERTISING HAS already given us an abundance of free services — e-mail, instant messaging, search, news, storage and countless Web sites, not to mention broadcast television, radio, newspapers and magazines. It has also financed the growth of two of the IT industry's most important and influential companies, Google and Yahoo.

While thus far most free services have been targeted at individual consumers, there is now growing interest in testing whether advertising-based models can be applied to enterprise IT markets. It's one of our industry's upcoming megaquestions.

For many decades, advertisers have tried to reach people in the workplace. The workforce constitutes a larger and more representative set of adults than those who watch TV or read newspapers. While business publications partially fulfill this demand, their reach is limited, and real-time targeting is generally not possible. Internet technologies can provide powerful solutions to these challenges and are theoretically capable of funding a wide range of software and service offerings at the companies that choose to provide data for advertising programs.

There is potentially a great deal of money available. According to the Interactive Advertising Bureau, total U.S. online advertising spending reached some $12 billion in 2005. But this is just 4% of the total U.S. adver-

tising market. Given the impressive content and services that $12 billion has already financed, imagine what the Internet industry might do with $50 billion or even $100 billion. If advertising can pay for activities as complex as the Olympics, why can't it support basic enterprise applications and services?

To get a sense of how this might work someday, consider the following: Would your company be interested in, say, a Web-based corporate calendar system that is not only free, but might also actually pay you money? For example, if traveling employees could be automatically targeted with ads for nearby hotels, restaurants, entertainment and office support services in the cities they're visiting, you could be eligible for cash or bonus points based on resulting responses.

As Bill Gates says, the power of this model comes from large-scale aggregation. Imagine if that calendar system could identify, aggregate and target all of the employees in the U.S. (or even worldwide) who are headed to, say, Phoenix in the last week of January. Wouldn't regular access to this type of information be worth more than enough to fund the development and hosting of something as simple as an electronic calendar service?

Similar types of highly targeted ads could be aimed at employees with particular job types or income ranges, or by document content, information use or mobile phone location. The possibilities are virtually endless.

Just as the bounds between work and personal time are blurring, so will consumer and corporate advertising. And while there is still a long way to go to make this vision a reality, you can be sure that Google, Yahoo and many startups are pushing hard. Microsoft has sensed what is happening, but with its vast packaged-software business, it will likely find it difficult to respond. Corporations and their IT organizations may eventually face the biggest adjustment of all. How much is information about your employees worth, and under what terms are you prepared to sell it?

VIRGINIA ROBBINS

Eight Steps to Leadership

I WAS ASKED recently how to go about introducing a new technology into a company that didn't have a method for adopting new technologies. What made the question especially interesting was that the person who had been given responsibility for introducing the change was new to the company and wasn't in a position of authority. How could he possibly succeed? Here's the advice I gave:

Virginia Robbins is the former chief information and operations officer and managing director at Chela Education Financing in San Francisco. Contact her at vrobbins@sbcglobal.net.

1. Obtain an active executive sponsor. Explicitly ask that person for active support. Introducing change is like any other project — you need support from the top.

2. Find the maven. Besides an executive sponsor, you need to find a technology maven, someone within the company who understands the new technology. A maven, as defined in Malcolm Gladwell's *The Tipping Point*, is a person who has both information and the social skills to pass it along. The good news is that every company has one somewhere, and he is generally well known. The challenge in a situation such as this one is that the maven might be outside of IT.

3. Identify key stakeholders. A few groups are certain to be more negatively affected by the change than others. The executive sponsor can identify these groups, and the maven can identify their spokesmen. The spokesmen become the key stakeholders, whose concerns will be the focus of the sales pitch. It's a good idea to take the key stakeholders out for lunch or coffee, to give them a chance to voice all of their concerns.

4. Develop the sales pitch. The information from the executive sponsor, the maven and the key stakeholders builds the sales pitch. The executive sponsor can advise what format the company expects, such as a one-page summary or a detailed PowerPoint presentation. Developing a three-sentence elevator pitch for gaining stakeholders' support also helps. The first sentence starts, "Did you know about . . ." and ends with a description of the change. The second sentence begins, "This is really exciting because . . ." and ends with a technical benefit. The third sentence starts with the stakeholder's concern and ends with the executive sponsor's key benefit: "I know that this will create . . . for . . . but once this is done we'll. . . ." The sound bite will help sell the marginally involved on the change.

5. Develop internal allies. You should provide a draft of the sales pitch to your executive sponsor, the maven and the key stakeholders and rewrite it until you have their full support.

6. Spread the news. You need to develop a communication plan. I've found the most effective plan is to treat the new allies like disciples, letting them spread the news. For instance, if a presentation is required, the executive sponsor and key stakeholders should spend more time talking than you do.

7. Prepare for success. You should prepare an implementation plan and budget. Early in my career, I used these techniques to introduce change at one employer. Before I knew it, my case for change became a corporate initiative, and I was in charge. But building the implementation plan and budget over a weekend was not fun.

8. Keep everyone informed. In the same project, I also failed to keep my supervisor informed. I was fortunate that she understood and supported my results. But you don't want to put your supervisor in an awkward situation, so keep her informed as she prefers.

Successful leaders drive innovation within their organizations. Following these eight steps can bring out your leadership qualities, no matter what your actual title may be.

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More columnists and links to archives of previous columns are on our Web site

www.computerworld.com/columns

READERS' LETTERS

Electric Knowledge

WAY TO GO, Mark Hall – an IT geek who knows there is a difference between joules and watts ["Utility Pricing," Nov. 21]!

Ron Dreyer, CBET
Biomedical engineering manager, Provena United Samaritans Medical Center, Danville, Ill.

Boring Jobs Can Cause Burnout Too

IT'S INTERESTING to note that in the article "Will Moving on Mean Moving Ahead?" [*Computerworld.com*, Nov. 7], the list of questions for determining whether you are burned out focuses on overtime and crises, while only the last question asks about personal fulfillment. Frankly, the one thing that I find almost certain to cause burnout is underinvolvement in my job. While burnout caused by overwork is common, the mental burnout caused by poor job fit is just as detrimental.

Gordon J. Milne
Senior software engineer, Christchurch, New Zealand

Driven to Tears by Windows Reboots

I FEEL YOUR pain, Mr. Scoble ["Dear Bill Gates: Fixes and Features for Vista," Nov. 28]. It is things like this that made me cry when I was told I had to stop working on an IBM mainframe running VM/ESA and had to work on Windows, again when I had to run on Windows instead of OS/2, and again when I later went from Unix to Windows.

I recall that in the three years prior to abandoning our mainframe in 1999, we rebooted exactly six times, and those were all planned reboots. Rarely did the operating system or utilities fail due to their own code, let alone hardware errors, and never did a failure require a reboot. And we knew ahead of time in the truly rare event of a required reboot (even for hardware upgrades). Try that one on for size, Mr. Gates!

John R. Carter
Internet infrastructure engineer, Antioch, Ill., mr4l@comcast.net

We Need Security 007 Could Trust

THE NOV. 21 Security Manager's Journal, "An Imaginary DoS Attack Uncovered," discussed a system that gives documents classifications like "Confidential." But we have the same need for classifying and protecting data in a database. We need to make it clear what level of privacy and protection are required for items that appear on the database views our users access.

In the James Bond movies, they could stamp a file "For Your Eyes Only." But how do we do that with electronic data in several systems? That is our challenge.

David Kreth Allen
Web developer, Carlson School of Management, University of Minnesota, Minneapolis, dallen@csom.umn.edu

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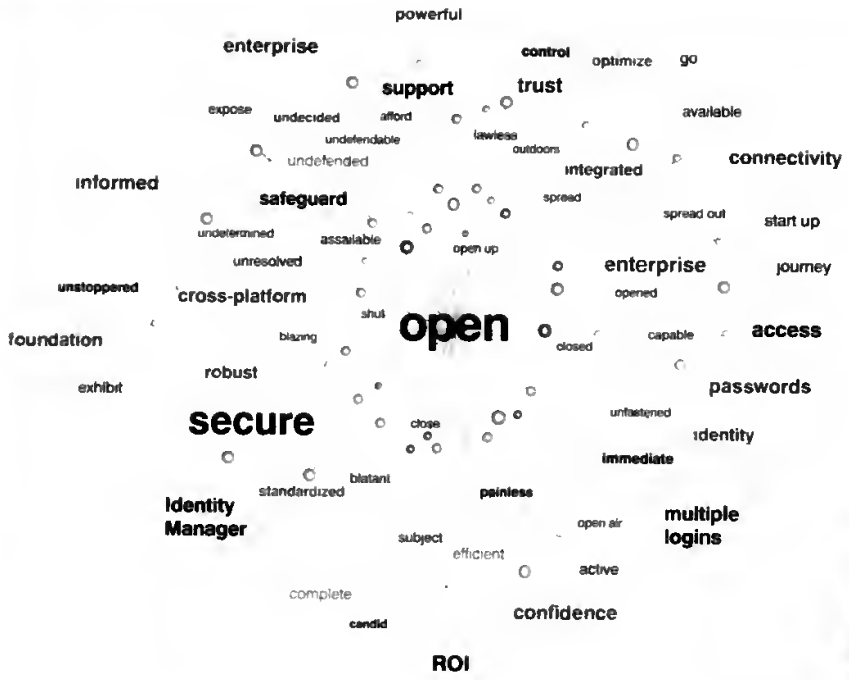

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FUTURE WATCH

Computer to User: You Figure It Out

Researchers are using ambiguous interfaces to link human emotions and creativity to computers. PAGE 24

SECURITY JOURNAL

WMF Vulnerability Sparks Patch Program

The need to quickly install a patch for the Windows Metafile vulnerability leads Mathias Thurman to deploy a more automated patch management system. PAGE 26

OPINION

Absorbing the PC

PC blades have been slow to catch on But a new focus on virtualizatioo could turn the tide, says Robert L. Mitchell Here's why PC blades could be the next big area of consolidation PAGE 28

ANDY ANOW

ENDPOINT SECURITY WITHOUT THE PAIN

COMPANIES ARE FINDING TOOLS AND STRATEGIES TO SECURE LAPTOPS, DESKTOPS AND MOBILE DEVICES WITHOUT HOBBLING EMPLOYEES. BY ROBERT L. SCHEIER

IT ISN'T OFTEN that users are happy when their IT manager installs security software on their notebooks. Usually, more security means more passwords to remember, more restrictions on what software they can run and more hoops to jump through to get their jobs done.

But technology team leader Laura Davis says mobile employees at Woolpert Inc., an 800-user architectural and engineering firm in Dayton, Ohio, were "ecstatic" when she installed Senforce Technologies Inc.'s Endpoint Security Suite on their notebooks.

That's because previously Davis had flat-out disabled their wireless access out of fear that hackers could use it to access the Woolpert network while users were also linked via their wired connections. Or, to be more precise, she had tried to disable the users' wireless access.

"We had a formal policy, we had the hardware disabled, we had the operating system configuration locked down," she says. But savvy users found ways to go wireless anyway.

Davis is now about 50% through a rollout of the Senforce suite to about 300 notebook computers. Senforce gives users legitimate wireless access when they're on the road but disables their wireless — for sure — when they have a wired connection to the Woolpert LAN.

Davis' experience shows how endpoint security can benefit both individual employees and their employers. Fearing everything from privacy regulations to malicious insiders, many companies are adding more protection to endpoints such as desktop PCs, notebooks and handhelds.

IT managers can lock down users' systems in ways that limit which applications they can run, where they can make a wireless connection and whether they can copy a file to a USB memory drive. "But all the users will hate their guts, because they won't get anything done," says Clain Anderson, director of security at Lenovo Group Ltd. in Purchase, N.Y., which acquired IBM's PC business last May.

By paying careful attention to the needs of users and choosing endpoint security tools carefully, IT staffs can avoid creating overly strict security policies and elaborate network-access rules, as well as spend less time dealing with false alarms and tweaking security configurations, say users, vendors and analysts.

Done right, endpoint security protects critical data without putting the squeeze on users' productivity or IT managers' already overloaded schedules.

Threats and Countermeasures

An endpoint is any intelligent, network-aware device that is under the control of an end user and can be accessed from outside the organization. The most obvious threat is the ubiquitous mobile computer with a wireless connection. But even networked printers and copiers have enough processing power and storage to launch an attack (see "Printers Gone Wild," next page).

Any intelligent device with an I/O port can be vulnerable, even to low-tech threats like theft. For Conrad Pearson, burglaries near his office in Lake Oswego, Ore., were the rude awakening. "We're in one of the more exclusive office buildings you can be in," he says. But several years ago, thieves stole computers and other items from nearby buildings. That set off alarm bells for Pearson, a financial adviser at Pearson Financial Group, a 30-person financial planning firm with 500 customers.

Since then, the firm has installed measures such as Centennial DeviceWall software from Centennial Software Ltd., which locks down employees' PCs so they can't copy information to flash memory drives, CD-ROMs or floppy disks. That helps secure customer information, which "would be a treasure trove" for identity thieves, says Pearson.

Countermeasures begin with the basics: antivirus and antispyware software and a firewall on every endpoint computer. The next step includes products, such as those used by Pearson, that allow administrators at a central console to lock down the applications or the physical devices a user can access on his machine and monitor attempts to bypass the controls.

The most ambitious and expensive strategy, usually used by larger organizations, is a network access control system that runs on servers or on network appliances and scans network traffic for attacks that enter the network through an endpoint. Such products may require a device to have the proper security patches and updates before accessing the network, determine when and how users can access a wireless network, and control the flow of traffic across the network to limit attacks. Whatever the approach, users don't want to be hamstrung — and IT managers don't want to be overwhelmed by the work involved in managing them.

"If you're locking those [endpoint] systems down too much, it may interfere with the users' ability to perform their jobs," says Diana Kelley, an analyst at Burton Group in Midvale, Utah. "You've got to balance how tightly you're going to lock down those systems versus what users are not going to do if you're using a solution that forbids the installation of new software."

Fingerprint readers, which replace passwords with a finger scan, can increase security without making users' lives harder. Lenovo has sold nearly a million notebooks with such scanners, says Anderson. "The technology has evolved to the point where it is becoming more viable for mainstream mobile users," says Matt Wagner, senior manager of security and wireless product marketing at Hewlett-Packard Co.

Knowing that most end users don't have the time, interest or knowledge to decide which software or devices are safe to use on their PCs, some vendors instead focus on offering systems that support companywide security policies that make those decisions for the user. That, however, can shift the work from the user to the IT manager.

Easy on IT

Creating policies that determine what can and can't run on endpoints requires IT managers to figure out what software is really running in their organizations and which of those applications are really critical. Managers often don't realize how long it takes to create policies that reflect how employees actually use their systems and thus underestimate the cost of implementing security software, says Forrester Research Inc. analyst Natalie Lambert.

Implementing lock-down tools that rely on a "white list" of approved applications, for example, requires knowing and listing every application employees use. Locking down physical access to a machine by denying the use of a USB flash memory device, for example, might prevent a virus from spreading but also keep a user from legitimately sharing a file with a co-worker, says Lambert.

Even when using a host-based intrusion-detection system that builds knowledge about normal network traffic, "you may need to run the program in learning mode for over a month to learn about what's going on in your environment," she says.

Then there's the ongoing work of watching for attacks and fighting them. When a virus took over student notebooks at the University of North Carolina at Chapel Hill and used them to spew spam, Mike Hawkins, associate director of networking, "stopped it dead in its tracks" by blocking such traffic at switches at the edge of the network. Using Enterasys Networks Inc.'s Dragon Intrusion Defense System, he was able to change the configuration of each switch without having to log into and out of each one. "I don't have enough people, and nobody has enough people" to make such changes manually, he says.

"Robust management is absolutely critical, because in a very large environment, you could be talking about 70,000 desktops you're managing," says Kelley. She recommends security tools that make it easy to not only deploy, monitor and reconfigure agents, but also do so over low-bandwidth connections or when the device is frequently disconnected from the network.

Customers are demanding security that is "simple, reliable and effective, and easy to maintain," says Brian Hazzard, director of product management at Bit9 Inc. in Cambridge, Mass. Bit9's Parity offering deploys agents that monitor endpoint systems for a "gray list" of unknown software, which the agent can either block or just monitor, based on policies set at a central administrator.

Ease of use drove Omgeo LLC to Bit9, says Javed Ikbal, chief information security officer at Omgeo, which processes trades in stocks, bonds and other financial assets. He has deployed Bit9 on almost 1,000 machines, including endpoint devices, production servers and servers for quality assurance on new applications. "Any product that is behavior-based requires constant tuning and maintenance to be sure it's capturing what it should capture," he says. Bit9 allows Ikbal "to lock down machines without taking too much maintenance from the user."

Educate and Convert

No security tool will work effectively without cooperation from users — and that requires educating them about the need for some limits on what they can do. When Pearson installed the DeviceWall software at Woolpert, general manager Denise Reinert told employees why new regulations — and the need to protect their customers — made it so important for them to safeguard corporate data. "That created a platform to have a conversation," she says, "and when people got to talking abut it, [they] became very aware of how much we were at risk."

At Omgeo, "very comprehensive user communication" has helped melt user opposition, says Ikbal. "When Bit9 throws up a message that says, 'You're not allowed to execute this [software],' " the program points the user to a help desk Web site as well as the phone number of a help desk staffer, he says. For a couple of weeks after Bit9 was deployed, the help desk got two to three calls per day, but that has since dropped to zero.

"People feel strongly about what they can and cannot do" on their endpoint systems, Ikbal says. "It's up to us to educate the users, and we are doing that."

In the short run, such education is yet more work for IT managers, but in the long run, it can make life easier for everyone.

Scheier is a freelance writer in Boylston, Mass.

SECURITY SOFTWARE

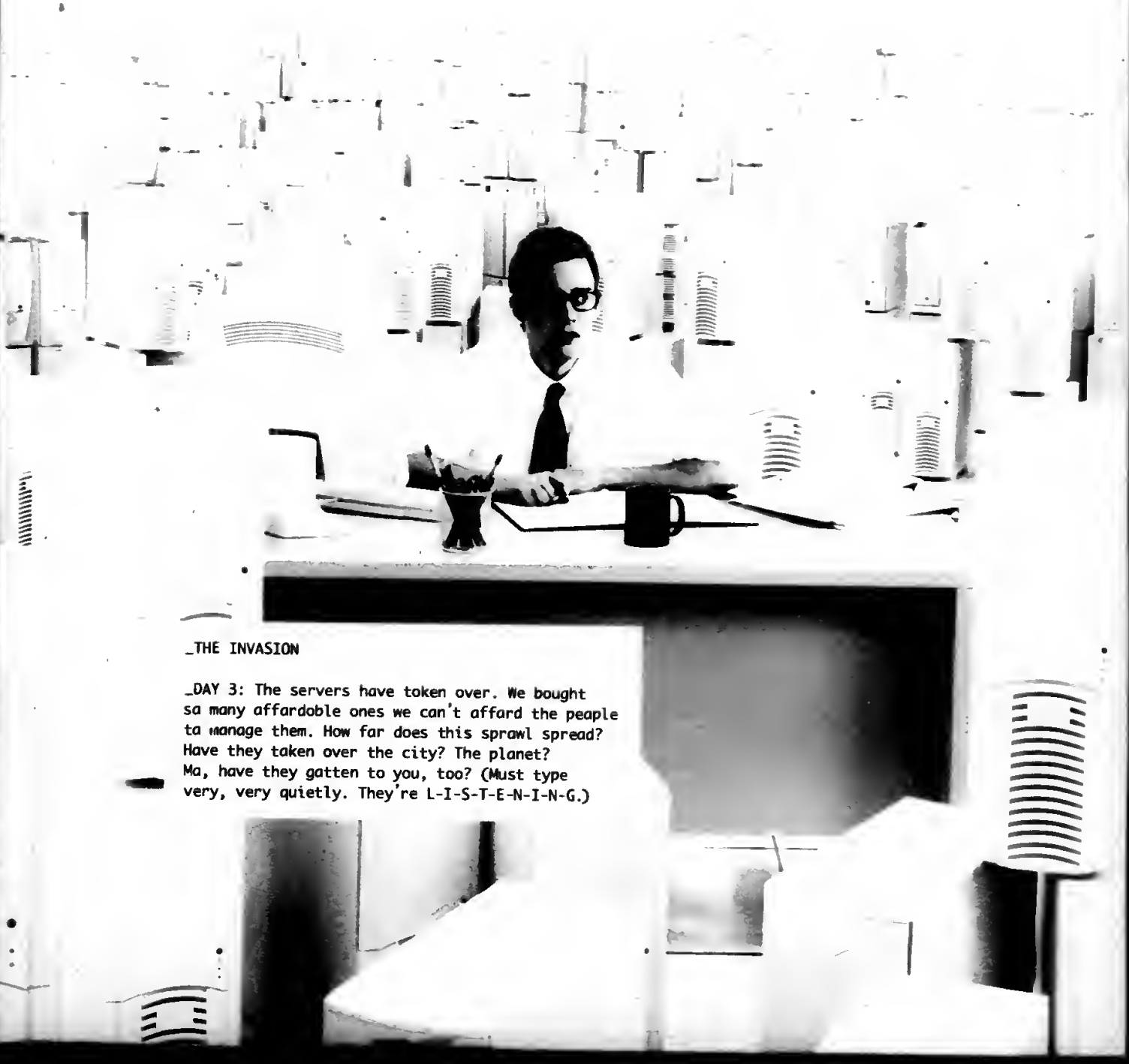
Analysts suggest that IT managers go through the following checklist before buying client-based security software:

- Is it designed to provide stability, performance and scalability?
- Does it include antivirus, antispyware and personal firewall software?
- Does it provide intrusion detection and prevention?
- How robust are its administration and management capabilities?
- What vendor-neutral standards does it support?
- What major third-party products does it interoperate with?
- Does the vendor provide vulnerability assessment and remediation products? If so, do they integrate with its client security product?

SOURCE: FORRESTER RESEARCH INC. "TECH CHOICES REPORT," JUNE 2005

PRINTERS
WILD

IBM



_THE INVASION

_DAY 3: The servers have token over. We bought sa many affardoble ones we can't affard the peaple ta manage them. How far does this sprawl spread? Have they taken over the city? The planet? Ma, have they gatten to you, too? (Must type very, very quietly. They're L-I-S-T-E-N-I-N-G.)

COMPUTER TO USER: YOU Figure It Out

Systems should leave something to the imagination. **BY GARY H. ANTHES**

RESEARCHERS IN the U.S. and the U.K. are developing computer systems that make deliberately ambiguous interpretations of human environments. What's more, the systems are often flat-out wrong. But the developers are delighted with their progress so far, saying that with computers, sometimes less is more.

The work is a branch of "affective computing," which attempts to make computers recognize and respond to users' emotions. And then there's "culturally embedded computing," as Cornell University information science professor Phoebe Sengers calls it, which applies a twist to the concept.

FUTURE WATCH

"We are shifting from the idea that affective computing is about computers understanding emotions to thinking about how people can understand their own emotions better after interacting with computational devices," says Sengers.

The notions of ambiguity and simplicity are being tested in a house in North London, where a prototype system called Smart Home will develop a sense of a home's emotional climate and present its observations to the family in a daily "horoscope." Input comes from "shy sensors" that don't directly track movements and activities — which many people find intrusive. Instead, they collect indirect clues about daily living patterns, such as the positions of doors and light switches, water flows and sound levels. The project, a collaboration between the University of London's Goldsmiths College and Cornell, is funded by Intel Corp. and the National Science Foundation. "The notion of the 'horoscope' is to give people a prompt to reflect on the well-being in their home — whether people are getting along, whether they are busy," says William Gaver, a professor of design at Goldsmiths. "It might say, 'You've been very busy lately; you should think about taking some time off.' " The system will often be wrong, acknowledges Gaver. Maybe you weren't that busy; you just left the light in the study on all night. But it will be right often enough to get users' attention. "It's not clear we are trying to be 'useful' in a very direct sense," he says. "We are trying to be more thought-provoking. The idea is to shift the center of interpretation and reflection from the system to the user."

Low-Bandwidth Love

Meanwhile, Cornell graduate student Joseph Kaye has taken the concepts of simplicity and ambiguity even further in an experiment he calls "intimacy one bit at a time." The idea is that meaningful interactions between geographically split couples can occur with minimal communication.

A number of couples in long-distance relationships were given a virtual intimate object (VIO), which displays a small circle in the Windows taskbar. When one person clicks on the circle, his or her partner's circle glows bright red. Over time, the circle fades to blue, unless the partner clicks again.

Though they continued to use cell phones, e-mail and instant messaging, the subjects became surprisingly attached to, and concerned about, these little signs of intimacy, says Kaye. On average, the subjects used their VIOs 35 times a day, and 70% reported that it made them feel closer to their partners. A number of them continued to use their VIOs after the experiment ended.

While they couldn't really tell from the circles just what their partners were doing or thinking, they interpreted each click as a "gift," Kaye says. The richness of the experience reported by participants stemmed directly from the VIO's simplicity and ambiguity, which invited active interpretation, he says.

"A lot of computer technology is about efficiency and maximizing the amount of stuff you can do," says Kaye. "But we are saying maybe that's not the way to do it; maybe you want an opportunity for richness and interpretation."

Ambiguity Goes to the Office

Other researchers at Cornell are working on displays intended to give workers a sense of the emotional climates in their offices. A prototype combined input from sound sensors around the workspace with a daily survey of workers — "How are you feeling today?" — to produce distortions in an animated image based on a painting by Joan Miró displayed on a big screen. A red oval on the image changed position and size, as did several dots, in ways that users found difficult to interpret.

"We could have projected, 'The happiness level today is 5,' " says graduate student Kirsten Boehner. "But we wanted to do something that would draw people into playing with it a bit more. People would stand there looking at it and say, 'Oh, the color is moving to red; that means there's a lot of stress.' That might not be the correct interpretation, but it provided a stimulus for people to reflect on emotions and talk about them.

"Ambiguity is not something you always want in your system," Boehner observes. "It's not something you want air traffic controllers to have. But for systems that are about inspiring creativity or reflection or conversation, it is really useful to signal to people that there's no right interpretation. It's about building new interpretations."

While such work may seem purely academic, "simplicity and ambiguity are incredibly important concepts," says Genevieve Bell, director of user experience for Intel's Digital Home Group. "I find them a useful vantage point for critiquing existing systems. There's been a startling disconnect between the people who develop computational technologies and the people that consume them." ▸

Shades Of Mood

In a follow-on to the Miró project, office workers see a co-worker's image distorted in various ways. Just what emotional state each distortion represents is left up to the viewer to decide.

IBM

_DAY 30: It's gotten worse. I'm trapped in a maze of our own creation. Oh, the irony. I need an answer. (P.S. I'm frightened.)

_DAY 31: I need IBM Systems with virtuolization technology. Helps you manage your servers and storage, each from a single view, so yau can deplay resources on the fly. Lets yau scale up and out quickly. I will achieve cantrol. I will be a big hero. They will call me Ned. Ned, Champion of Simplicity.

WMF Vulnerability Sparks Patch Program

When the need to patch a major Windows hole arises, our security manager sees an opportunity to implement a process that's been resisted. By Mathias Thurman

SECURITY MANAGER'S JOURNAL

The Windows Metafile (WMF) vulnerability, which emerged in the last week of 2005 and was resolved with a patch that Microsoft released off its regular patch schedule at the end of the first week of 2006, wasn't good news at all. But I managed to wring a good outcome out of the situation, since it allowed me to give some structure to our patch management process.

Before this threat arose, efforts to deploy a patch management process had been met with excuses. Resources were short. A Systems Management Server (SMS) upgrade was being deployed. And as a general rule, engineers are resistant to patching because it could harm their ability to work. When the WMF vulnerability came to light, I saw an opportunity to finally institute a patch management process without listening to a lot of moaning.

Unfortunately, it sometimes takes a serious incident or the threat of one to bring about change in an IT organization. What made the threat posed by the WMF vulnerability particularly potent was one way a hacker could take advantage of it. With the WMF vulnerability, all a hacker has to do is embed malicious code in an image, place the image on a Web site and then lure unsuspecting users to that site. Once the user browses the Web site, his operating system will execute the malicious code contained in the image — no downloading or clicking on a link is necessary.

Even though I hadn't heard of any incidents, I didn't want to take any chances. I've been through several other incidents involving vulnerabilities in the past, and it's never fun to clean up the mess. This WMF vulnerability just reeks of long nights in the data center operations war room.

My strategy for establishing a patch management process was fairly straightforward. My first priority was to get all of our desktops patched for the latest WMF vulnerability. We sent an e-mail to all 8,000 employees advising them to enable Windows Update so that critical patches would be installed automatically, or to click on a link to a Microsoft Web site where they could download only the WMF patch. We gave the employees 24 hours to comply, and then we used SMS to push the patch to all of the desktops.

With the WMF problem properly disposed of, the next step was to ensure that all desktops were current with critical patches. My security team reviewed all of the critical updates that Microsoft released in 2005 and made a recommendation on which patches were critical to our environment. We had installed several updates throughout the year to address zero-day worm infestations, such as Zotob. But until now, our desktops haven't been fully patched.

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When I received the list of recommendations from the security team, I provided it to our desktop technology group, advising it to use the same approach to get our desktops up to date. The group has put a schedule together, so this part of the new process is well under way.

Finally, I am mandating a once-per-month patch review and update day. I'm calling this Patch Thursday, and it will fall at least nine days after Microsoft's well-known Patch Tuesdays. On our Patch Thursdays, we will review all new patches and decide which are critical, thus ensuring that our desktops remain compliant. Of course, I will reserve the right to deploy some patches immediately, just as we did for the WMF patch.

The Server Side

I will be instituting the same program for our Windows and Unix servers, as well as any Unix or Linux desktops. We may have to address the server environment a little differently from the desktops. The main problem here is that Windows servers typically need to be rebooted after a patch is applied, so monthly updates in a complex server configuration that includes clustered environments and the use of virtual machines may not be feasible.

In addition, the process would need to include some fairly comprehensive testing before patches could be deployed in the production environment. The last thing we want to do is risk the company's ability to generate revenue or its reputation by deploying an untested patch on a key server.

Unix servers are also considered critical infrastructure, and although many of the recommended Solaris patches don't require a reboot, they still need to be fully tested. But we don't always have a test environment available for every server in production, so testing will be a challenge.

I also wanted to ensure that our standard corporate images are maintained at the same patch level as the desktops. After some discussion, members of the desktop group and I agreed that they would review recommended patches and keep desktop images up to date on a quarterly basis but that prior to issuing a new laptop or desktop, they would run the Windows Update program to ensure that all patches were installed. I'll expect the same for the servers.

I solidified this new patch-management process by writing down some guidelines on matters such as roles, responsibilities and prioritization. I'll distribute this at the upcoming patch management meeting, where we'll assign appropriate duties.

In addition, I'll be using our SMS infrastructure to create regular reports that provide details on compliance. My company holds a weekly service-review meeting in which each manager of a major department presents various metrics and status reports relevant to his department. I will include these new metrics along with my other reports so that my peers and the CIO can be kept abreast of the effectiveness of the patch management process. ▸

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SECURITY LOG

Security Bookshelf

***The Complete Cisco VPN Configuration Guide*, by Richard Deal (Cisco Press, 2006).**

Since most of my company's network infrastructure is Cisco-powered, I didn't mind this book's Cisco focus. And the author's expertise in virtual private networks and network architecture is amply demonstrated. We're deploying Multiprotocol Label Switching, so the section on the Dynamic Multipoint VPN was just what I was looking for.

– *Mathias Thurman*

BMG Software on Thousands of Nets

Security expert Dan Kaminsky estimates that 350,000 networks contain PCs with copy-protection software installed by music CDs sold by Sony BMG Music Entertainment. A controversy arose because the software employs rootkit techniques similar to those used by malicious attackers. In his research, Kaminsky asked the 3 million Domain Name System servers that are reachable by computers outside their networks to look up whether an address used by the software was in their caches.

Phishing Reaches All-time High Mark

The Anti-Phishing Working Group received a record 16,882 unique reports of phishing attacks in November, according to a report the group released this month. November's phishing attacks doubled the number of attacks recorded in November 2004, according to the report.

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SECURITY LOG

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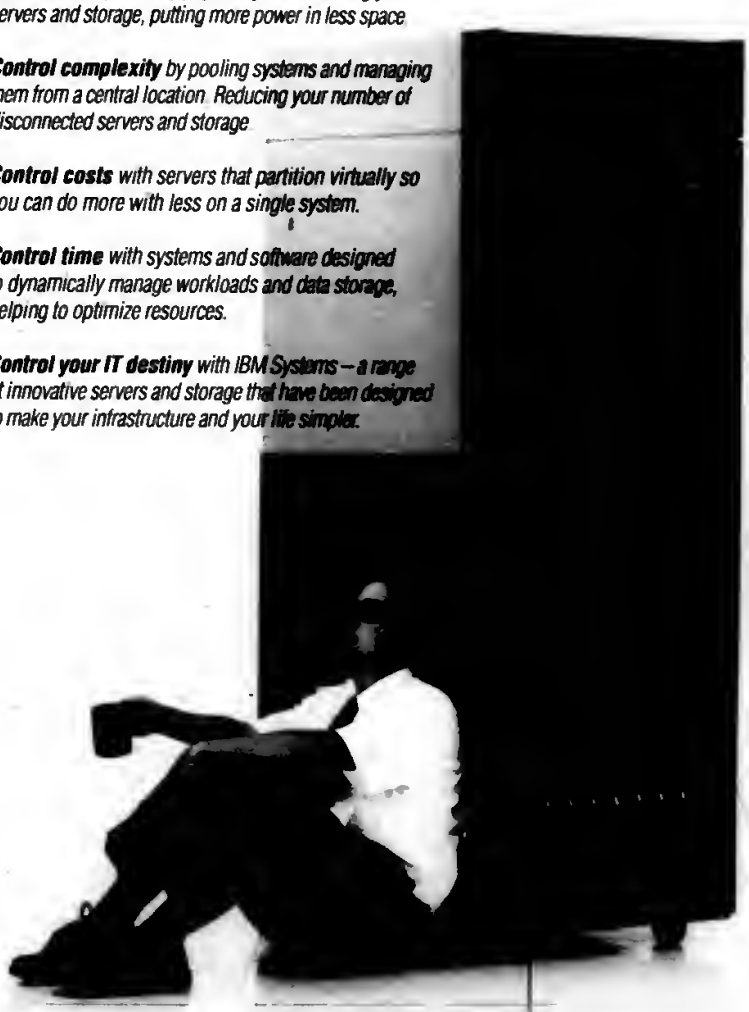

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BRIEFS

Mainsoft Releases Visual MainWin 1.7

■ Mainsoft Corp. released Version 1.7 of Visual MainWin on Jan. 11. It allows C# and Visual Basic .Net developers to quickly port their code over to Java running on an open-source stack of Linux and WebSphere servers from IBM. The company said IBM has validated Version 1.7 for its eServer system and will co-market it and provide technical support. Visual MainWin 1.7 costs $5,000 per developer's seat and/or $2,500 for a two-year license per deployed server.

Symbol Releases Mobile Computer

■ Symbol Technologies Inc. announced the MC70, a rugged handheld computer that offers voice and data communications over Wi-Fi and wide-area cellular networks. The 12 oz. device is equipped with imaging and laser-scanner capabilities for inventory monitoring. A cellular-capable version now sells for $2,845.

BakBone Updates NetVault: Backup

■ BakBone Software Inc. announced NetVault: Backup Version 7.4, which is targeted at midsize organizations. The software includes backup support for VMware ESX Server environments and multiplatform column-sorting and group-selection-based command operations. Workgroup pricing for Intel-based systems begins at $1,195.

Aruba Tools Debut

■ Aruba Networks Inc. announced the Aruba 200 Mobility Controller and the Mobility Management System for branch-office LAN and WAN connections. The controller weighs 2 lb. and has two ports that support up to 100 simultaneous users on six Wi-Fi access points. Pricing starts at $1,750. The management system features planning, monitoring and fault management for distributed wireless LANs. It starts at $3,995. Both products are available now.

ROBERT L. MITCHELL

Absorbing the PC

INFORMATION technology has taken to the idea of server blades. So why not PC blades? The convergence of more efficient architectures with virtualization technologies could make PC blades a more attractive proposition for specific end-user roles, such as in call centers. And more is in store with this technology.

PC blades move the PC hardware into the data center, leaving a thin client on the desktop that essentially functions as an extended keyboard, monitor and mouse. Like server blades, PC blades fit into a chassis that can be centrally managed. But just putting users' PCs in the data center misses the point. "I don't think there needs to be a one-to-one relationship between users and PCs," the CIO at a large insurance company once told me. "Isn't there an enormous amount of processing power that's wasted in that?"

ROBERT L. MITCHELL is a Computerworld national correspondent. Contact him at robert_mitchell@computerworld.com.

Blade vendors finally have an answer.

Like server blades before them, PC blades are becoming consolidation platforms. For example, ClearCube Technology in Austin offers a management tool for its PC blades called Grid Center that allows up to five users to share a single blade. It also maps users to a pool of PC blade resources that cao be dynamically allocated to any user rather than being dedicated to a single user's thin terminal.

Meanwhile, Hewlett-Packard is working on technology in its Consolidated Client Infrastructure that will enable administrators to create different tiers of PC blades and provision them based on users' roles.

IBM bas taken PC blade virtualization even further. Its Virtual Hosted Client Infrastructure brings the PC blade and server blade functions under a single architectural umbrella. The system enables a thin client to access a PC virtual machine running on a server blade within a BladeCenter chassis. The design uses EMC's VMware and ClearCube's Grid Center to support up to 14 PC sessions per blade. Such consolidation offers much greater efficiencies than just simplifying PC management by centralizing the system hardware. The rigid, "one user to one PC blade" design is disappearing.

It gets better. Today, users attached to a failed ClearCube blade can be quickly moved over to another available blade. The process requires administrator intervention, but ClearCube says it has nearly completed work on an automated fail-over process that avoids interrupting the user session.

The next logical step might be to provide tools that let administrators "lift and shift" live user sessions between PC blades for maintenance reasons — something administrators can do with server blades today using VMware's VMotion.

IBM sees room for further consolidation. Today, a user can be mapped only to the virtual machioes that reside on a single blade. By the third quarter, users will be able to connect to virtual machines running on any blade in a chassis. Beyond that, IBM envisions pooling resources in a "gridlike manner," says Juhi Jotwani, director of solutions and alliances for the xSeries and BladeCenter. "Users will still have the personalization, but resources will be spread across the entire chassis," he says.

Ultimately, the PC session itself may be broken apart and processed in parallel on one or more blades. Tbis will evolve naturally as computers move first toward dual-core and then to multicore processors, and as software developers begin to optimize for the new processor architectures by allowing more and more operations to execute in parallel.

Windows sessions that can leverage a PC blade grid may be a ways off, but opportunities to leverage PC blades for grid computing aren't. Some IT organizations are already using desktops after hours for grid computing tasks. Not only will PC blades in neatly aligned racks in a data center be much easier to set up and manage as a grid, but the design also presents opportunities to speed I/O between PC blades to improve performance.

While using BladeCenter server blades today might sound like overkill for PCs, that's likely to change if blade designs adapt to general-purpose use. As servers and PCs are abstracted from underlying hardware through virtualization, the distinction between what constitutes a PC blade and a server blade will fade. "Blade PCs are going to blur the definition of servers," says Tad Bodeman, director of blade PC and thin-client solutions at HP.

Ultimately, blade PCs will simply appear as instances oo one or more virtual machines that get assigned to segments of a general compute-resource pool. The thing the user tbinks of today as the PC will simply be absorbed into it. ♦

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Investing In Agility: Strategies for Consolidating and Securing Data Centers, Exploiting Software Re-use and Maximizing IT/Business Value

Tuesday, February 7, 2006 • 8:30am to Noon

Hilton Anatole • Metropolitan Ballroom
2001 Stemmons Freeway • Dallas, Texas

8:30am – 8:40am	**Introduction and Overview**
8:40am – 9:30am	**Market Outlook and Trends** Jean S. Bozman, Research Vice President, IDC
9:30am – 10:00am	**IT End-User Case Study**
10:00am – 10:15am	**Refreshment and Networking Break**
10:15am – 10:45am	**Slashing Cost and Complexity with Open Source Software and Commodity Hardware** Dan Agronow, Chief Information Officer, The Weather Channel Interactive (TWCi)
10:45am – 11:15am	**IT End-User Case Study** Gary Greenwald, Chief Technology Officer, Ameritrade
11:15am – Noon	**Panel Discussion: Creating an Agile Enterprise IT Architecture is Easier Said than Done** This panel of CIOs discuss strategies, tactics and lessons learned on the front lines of re-architecting their IT infrastructures to support ever-changing business requirements and enable faster, better business performance. Moderator: Julia King, National Correspondent and Executive Editor, Events, Computerworld Panelists: Dan Agronow, Chief Information Officer, The Weather Channel Interactive (TWCi) Gary Greenwald, Chief Technology Officer, Ameritrade
Noon	**Program Concludes**

Selected speakers include:

Jean S. Bozman
Research Vice President, IDC

Dan Agronow
Chief Information Officer, The Weather Channel Interactive (TWCi)

Gary Greenwald
Chief Technology Officer, Ameritrade

Julia King
National Correspondent and Executive Editor, Events, Computerworld

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'Prenuptials' for Offshoring

When it comes to offshore IT outsourcing contracts, you ignore key rights and remedies clauses at your peril. Here are some important things to look for. **PAGE 34**

Q&A

No More Spin Control

COO Kenny Klepper tells how Medco Health Solutions got its IT department to own up to problems and work hand in hand with business execs to minimize system downtime. **PAGE 35**

OPINION

Seven People of Highly Ineffective Habits

Becoming a CIO is like trying out for a team, says Paul M. Ingevaldson. He lists seven IT types that will never make the cut. **PAGE 36**

MIGUEL SANTAMARINA

Bad Boss

How to survive the **monster** manager

By Mary Brandel

WILLIAM McQuiston retires this month as CIO at Truman Medical Centers Inc. in Kansas City, Mo., after 41 years in IT. But he still vividly recalls the boss who made his life miserable in the mid-1980s.

That difficult period followed his acceptance of a position at a county medical center. McQuiston was hired to work on a four-person team that was moving one hospital's registration, billing and accounts-receivable system in-house. The team was led by a former PC technician who'd moved quickly up the ranks based on his technology prowess. McQuiston was eager to please his new boss. "I'd been out of work six months,

So Many Ways to Be Bad

Here are some of the personality types that make for bad managers, according to Scott Berkun, an independent consultant:

Inconsistent
Says one thing, does something else.

Arrogant
Always believes he's right and makes sure you know it.

Egocentric
Makes every issue and decision about himself.

Doesn't Listen
Is offered advice but ignores it before even considering it.

Self-centered
Doesn't support, encourage or look out for the team.

Mean or Abusive
Makes people feel bad for no reason.

Micromanager
Refuses to delegate anything.

Coward
Backs down whenever challenged.

Isolated
Doesn't involve others in decisions and rarely looks for ways to support or encourage the work of the team.

Incompetent
Lacks basic communication, intellectual or emotional skills needed for the role.

Checked Out
Isn't committed to the work or the team.

You can read Berkun's essay on how to survive bad management at *www.scottberkun.com/essays/essay43.htm*.

so I was totally elated to have a job and would have done anything for that guy for the simple fact that he hired me," he recalls.

But that was easier said than done. It quickly became apparent that McQuiston's manager was distrustful of the hospital's intentions and paranoid that his newfound power wouldn't last. "Everyone he dealt with he didn't trust," McQuiston says.

The boss withdrew and began concealing information from the very people he should have been forming relationships with, including the outsourcing partner, the CIO and the vendor involved in the project.

The situation soured further when McQuiston — who had 17 years of experience in health care — became the go-to guy for answering tough systems questions, leaving the manager even further out of the loop. "He turned inward and wasn't doing much management at all," he remembers.

Looking back, McQuiston sees his former manager as a classic example of a specific type of bad boss: the overgrown technologist who gets rewarded for brilliant technical work by being promoted to a position for which he's not qualified. Nearly anyone who has worked in IT is familiar with this all-too-common scenario of a technologically brilliant boss with no management skills.

Unfortunately, this is just one of many bad manager scenarios in IT.

Very few people make good managers if they're promoted for the wrong reasons, says Paul Glen, author of *Leading Geeks* (Josey Bass, 2002), president of C2 Consulting in Los Angeles and a *Computerworld* columnist. Criteria such as technical capabilities or a domineering personality may lead to managerial positions more often than, say, a desire to help other people.

"A good manager finds satisfaction in helping others be productive, not being the most productive person in the room," Glen says.

More bad news: It's highly unlikely that a manager who starts out bad will improve, Glen says. So if you're stuck with a bad boss and don't want to leave your job, what do you do? Here are some tactics that have enabled IT folks to survive despite a monster manager.

Focus on the Work

One survival strategy is to maintain an unwavering focus on the work that needs to be done rather than letting your energy be drawn into the vortex of a toxic personality. That's the tack McQuiston took. "It was absolutely uncomfortable, but my overarching principle was to keep my motivation pure," he says. "We had our work cut out for us, and the more I focused on that, the fewer cycles I had to get involved in gossip. When people start going with that negative energy, it goes the wrong way."

"Everyone he dealt with he didn't trust."

WILLIAM McQUISTON, CIO, TRUMAN MEDICAL CENTERS

As he focused on the work, McQuiston soon found the group looking to him for leadership, and when his boss was given six months to find another position, McQuiston was asked to lead the system conversion.

Hunker Down

Similarly, when John Wade, now CIO at Saint Luke's Health System Inc. in Kansas City, Mo., started his first IT job, at Polaroid Corp., he soon discovered the downside of his boss's personality. Though extroverted and a master politician with his peers and superiors, the boss was passive-aggressive and unsupportive of his team.

"You felt like you were just floundering," Wade says. But while the three people on the team commiserated among themselves, they considered it politically unwise to take their complaints outside their circle. "We didn't try to end-run him because we figured his boss must think he's doing a good job," Wade says.

Wade wanted to continue working at Polaroid, so instead of suffering in the shadow cast by this manager, he determined to let his capabilities shine through to anyone who might notice. "I figured, 'This guy isn't going to help me; I have to redouble my efforts to

Nobody's All Bad

Regardless of the approach you take, don't just label your manager as "bad." Define for yourself exactly what "bad" means.

"All bad bosses are bad in different ways," says Paul Glen, author and president of C2 Consulting. "There's the drunk-with-power boss, the 'I want the title but not the job' boss, the 'I want to do my old job' boss, the milquetoast boss who doesn't protect his team from the forces of the outside world."

By understanding the boss's weaknesses, you can learn how best to conduct yourself, which in the end is all you can control.

Seven years after John Wade's "bad boss" encounter, he finally gained insight into his first boss while taking a management theory course. According to a managerial grid theory that plots "concern for people" and "concern for task" along vertical and horizontal axes, Wade's first manager fell in the "1-1" category, meaning he had a "low task, low relationship" style, says Wade, who is now CIO at Saint Luke's Health System.

By categorizing a manager's style rather than labeling him as a bad person, you can defuse some of the emotions that get in the way of navigating a tough situation. "It allowed me to kind of let go of some of the ill will I felt toward this guy earlier," Wade says.

That approach might even enable you to see and then emphasize any positive traits the boss may have, says Scott Berkun, an independent consultant.

For instance, is he good at fighting for budget increases? Does he work better with certain types of people? If you have difficulty thinking of any strengths, you might open up the conversation to co-workers, who may have a different perspective, Berkun says.

– MARY BRANDEL

Fixing a Flawed Boss

Most people would call it futile to try to change a person – particularly a boss – who doesn't want to change. But in cases where you see mostly good managerial traits with just one or two fatal flaws, it might be worth speaking up and managing the manager.

Peter Baker, a vice president at Emcor Facilities Services, recently worked for a boss he liked but who had a tendency to micromanage the junior-level people on the team. "I told him, 'Pretend they're in a box, and when they hit the walls of the box, it will get bigger and bigger and bigger,' " he says. "Now this guy has the easiest job you can have, because he has a really high-performance team."

William McQuiston, retiring this month as CIO at Truman Medical Centers, remembers pointing out the importance of body language to one of his managers, whom he describes as "a stereotypical IT person who was introverted and kept a lot of stuff inside."

At meetings, this manager would strive to maintain a controlled voice, but his body language was "screaming like crazy, and he didn't even realize it," McQuiston says. His posture would stiffen, his face would redden, he'd cross his arms, clench his fists and roll his eyes. "I told him, 'The next time you're in a meeting, just be conscious of what's going on with your hands,' " McQuiston says. Eventually, the manager got to the point where he could express his ideas with some passion and even show some anger without it becoming destructive.

"You should always be managing your boss up or out," McQuiston says. "If you can make your boss successful, your own opportunities are a lot greater."

– MARY BRANDEL

SCOTT NEUMAN

"You felt like you were just floundering."

JOHN WADE, CIO, SAINT LUKE'S HEALTH SYSTEM

he successful and outperform on my own,' " he says.

Eventually, after a change of management at the company, the boss was transferred to a different department. The replacement manager was tough, Wade says, but a guy who inspired his team to give 110%.

While taking this "hunker down" mentality, it helps to minimize interactions with the boss, except when you know the exchange will be a positive one. "It's possible to have a functioning relationship with your manager that involves only a minimum of interaction," says Scott Berkun, an independent project management and product design consultant. "As long as you and your manager agree on your goals, how you go about getting your work done shouldn't matter."

As for positive exchanges, he suggests going out of your way to keep your manager happy and even doing things that help him believe whatever he needs to believe, be it that he's always right or that every issue and decision is all about him. "You can view this as a tax on the work, sort of like filling out forms or other administrivia," Berkun says.

C.Y.A.

The hunker-down approach worked for Peter Baker, vice president of information systems and technology at Emcor Facilities Services Inc., a subsidiary of Emcor Group Inc. in Arlington, Va. Baker once worked as a project lead for a micromanager who interfered with the work of the programmers. Baker advised his team members to stay out of the manager's way, avoid the politics and focus on their jobs.

He also suggested that they take 10 minutes each afternoon to document everything they'd done that day. "I remember sitting them down and saying, 'This guy is always going to come in and ask you, "What about this, this and this?" And you can just pull out your piece of paper and say, "I did that, that and that." ' It was kind of a capitulation, but we turned it into a positive by being proactive."

The technique worked. "He was looking for reasons to [complain], so if you didn't give him any, he'd move on to an easier target," Baker says.

Take Action

Laying low isn't always the best tactic. Sometimes it's better to lay out your needs on the manager's desk and at least see how he responds. The first step is to define exactly what those needs are, such as ownership of certain kinds of decisions, more resources or just the room to succeed or fail on your own, Berkun says.

"Once you've defined exactly what you need, prioritized it and translated it into terms your manager might understand, you bring those requirements to them," he says. "If the response isn't favorable, you know exactly where you stand, which is important. You can confidently make decisions based on the reality of your situation."

That's what Wade did when he accepted a job at Children's Hospital Boston in the 1970s. He wasn't overly impressed with his new boss, but he saw great growth potential at the hospital, in an atmosphere he found interesting. "I figured I'd demonstrate to myself that I'd learned to turn around a bad situation and that in five years, this guy will move on," Wade says.

Despite the positive attitude, Wade's first seven months were "absolute hell," he recounts. The boss was a classic crisis manager who would inevitably find reasons several times a week to call "emergency" meetings at 4:30 p.m. for the entire IT management group — and then not even stay for the entire meeting. "The meetings would run three hours, and this guy would leave at 6:15," Wade says.

"He was looking for reasons to [complain]."

PETER BAKER, VICE PRESIDENT OF INFORMATION SYSTEMS AND TECHNOLOGY, EMCOR FACILITIES SERVICES

Wade's interpretation was that the boss — an ex-salesman — didn't feel competent to solve problems that came up and figured if he got all the managers together, they'd get the problems fixed.

One day, Wade took a stand. He walked into the boss's office and said, "When you're not there providing leadership, we come out of these meetings without much more [direction] than what we went in with. So next time there's a crisis meeting, I'll have a letter in my hand, and it'll be my resignation."

The tactic worked. After that, when the boss called a meeting, it was better planned and better timed, and he was there to provide guidance. "It was almost like by channeling the guy, he became more effective," Wade says. The manager was eventually let go, and Wade became CIO at the hospital.

Despite Wade's success, working for a bad boss usually means either accepting the situation for what it is and behaving accordingly, or planning your exit strategy, C2's Glen says.

"Can bosses get better? Sure," he says. "They do so because they discover new things and realize how badly they've been doing. But relying on that is like waiting to win the lottery. You can't teach your boss."

Brandel is a Computerworld contributing writer in Newton, Mass. Contact her at marybrandel@verizon.net.

GET HELP ONLINE

A panel of experts is offering advice about how to deal with a bad boss. Post your query at:

www.computerworld.com/blogs/badboss

'Prenuptials' FOR Offshoring

IT customers who overlook rights and remedies in outsourcing deals may live to regret it. BY THOMAS HOFFMAN

OFFSHORE OUTSOURCING contracts are a lot like prenuptial agreements. If the marriage between customer and supplier heads south, it's important for clients to have predetermined how disputes will be resolved.

Unfortunately, few outsourcing customers pay sufficient heed to the "rights and remedies" clauses in contracts, including the fine print about where disagreements will be resolved. "Most customers don't read these issues; they leave them to the lawyers. But they're dead wrong," says Diana McKenzie, chairwoman of the IT group at Neal, Gerber & Eisenberg LLP in Chicago.

U.S. companies have inked hundreds of application development and software maintenance contracts with Indian firms over the past few years, so "the timing is right" for many of these contracts to run into problems, says McKenzie. "And the first place that lawyers are going to look is at this [dispute resolution] clause," she says.

IT managers need to understand that the legal rights and remedies laid out in outsourcing contracts vary depending on the legal jurisdiction agreed to by the parties involved.

"Most of our clients would prefer to have their transactions governed by a law in the U.S., such as New York state law," says John Funk, chairman of the outsourcing practice at Jones Day in Dallas. That's largely because New York courts have established legal precedents concerning many outsourcing provisions, and many offshore providers are comfortable with the tenets set by the courts in New York, says Funk.

Kirkland & Ellis LLP, a law firm with 1,100 attorneys in offices worldwide, generally advises its clients to specify in their contracts which state laws they wish to apply for legal rights and remedies, says Gregg Kirchhoefer, a partner in the firm's intellectual property and technology transaction practice in Chicago. Kirchhoefer, who represented General Motors Corp. in the granddaddy of IT outsourcing agreements in its 1984 deal with Electronic Data Systems Corp., notes that some rights and remedies are unenforceable in certain countries. For example, no-compete agreements are void under Indian law.

> "raise a child get issues resolved"
>
> DIANA McKENZIE, CHAIRWOMAN OF THE IT GROUP AT NEAL, GERBER & EISENBERG LLP

Be aware that the cost of trying to enforce an outsourcing agreement in court will typically outstrip the value of the contract at issue, says Leonard Nuara, chairman of the technology and intellectual property practice at Thacher Proffitt & Wood LLP in New York. So if an outsourcing agreement should go sour, it's best to have a contract that's laden with multiple exit options, leaving a court of law as a last resort.

For instance, a deal can include provisions that if the outsourcer fails to meet specific service metrics, there will be financial penalties against it or "credits" that the customer can use to purchase other services from the outsourcer, says Nuara. That way, if it's an extensive contract with multiple services being provided, the customer can opt to discontinue the underperforming service without stopping the whole contract, he explains.

If it's an application development agreement, the contract can include exit options across the course of the work being done, says Nuara. For example, if the customer is unhappy with how the provider has completed the development specifications, the contract could permit the customer to award only portions of the actual development work to the outsourcer.

"Don't write your contract like a restricted-access highway, where you can only get off the highway at the end," says Nuara. "There should be lots of exit opportunities along the way."

The Arbitration Option

Few U.S. outsourcing customers are willing to resolve contract disputes in international courts, because it's cheaper and more convenient to use U.S. courts. Besides, foreign courts can be even more bureaucratic than their U.S. counterparts. "You can raise a child by the time you can get issues resolved in Indian courts," says McKenzie.

But arbitration, a private forum for resolving contractual disputes, is a different story. It's much less formal than a court of law and much more business-oriented in terms of procedure, says Nuara. Judgments are awarded by either a single arbitrator or a panel.

Outsourcing customers that include arbitration in their contracts should stipulate that arbitrators must have specific experience in areas such as application development outsourcing, Nuara says.

The time and cost of arbitration can vary widely. Kirchhoefer says that when parties agree to binding arbitration under their contracts, they typically include a time frame for arbitration to commence and for the decisions to be made. He added that arbitration can often take six to nine months to complete, compared with litigation, which can take years. Arbitration is generally less expensive than taking a case to court, he adds. It can start at a "relatively modest" figure of $100,000, while litigation can go into seven figures.

Although attorneys often advise U.S. outsourcing customers to use domestic arbitrators, they will occasionally agree to arbitration at neutral sites such as London or Geneva that are internationally recognized and also serve as a halfway point for their dealings with Indian providers. "It's easier to enforce an arbitration award in India than it is to enforce a court judgment made in New York," says Funk.

Rather than relying on the uncertainty of litigating disputes in India, where the courts often move slowly and are allegedly subject to manipulation by outside forces, Nuara suggests that the outsourcing parties opt to arbitrate their disputes in the U.S. That's because India is a signatory to a New York convention that provides a legal mechanism for the enforcement of U.S. arbitration in India.

Once a clause for U.S. arbitration has been invoked, Nuara says, the parties involved "know the result will be enforceable." ▸

More Prenup Tips

Spell out that the legal venue [illegible] chosen for resolving dispute [illegible]

[illegible]

Demand a performance [illegible] contract where a third party [illegible] a vendor's performance [illegible]

[illegible] withhold payments if you are dissatisfied with a vendor's performance.

Make it clear who the parties to the contract are and whether any subcontractors will be providing services. [illegible]

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IT customers who overlook rights and remedies in outsourcing deals may live to regret it. BY THOMAS HOFFMAN

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No More Spin Control

Medco's top IT and business executives work together to minimize system downtime.

Medco Health Solutions Inc., a Franklin Lakes, N.J.-based Fortune 50 prescription-drug management company, has had great success with a program designed to reduce computer viruses and other IT-related problems that may affect its lines of business. As part of the program, Vice President and Chief Operating Officer **Kenny Klepper** *and other top IT and business executives meet three times a week for two hours from 15 videoconferencing sites nationwide to dissect IT problems and devise solutions to decrease system downtime. Klepper recently spoke to* Computerworld's *Heather Havenstein about the history of the program and its benefits.*

Why was the reliability program developed? When a patient is submitting a prescription, we often have a more complete view of [his] history [than the pharmacy] because we see prescription data, medical data and lab data [that can he used] to apply better judgment in bow medication is dispensed.

But if you don't have high stability and high quality of the core basic services, you can never get to tbose strategic discussions with the client.

Two years ago, we had a lot of reliability problems in delivering software ioto production. We were great at firefighting, but we tended not to spend the extra effort on prevention. We repaired and moved on.

We created this forum where we discuss every outage. What happened? Are we mobilized to get the repair done? How we can address prevention? That brings a heigbtened sense of accountability to key stakeholders.

About 18 months after we started, we had dropped defects that made it into production by 98%. Now we have good metrics around application failures.

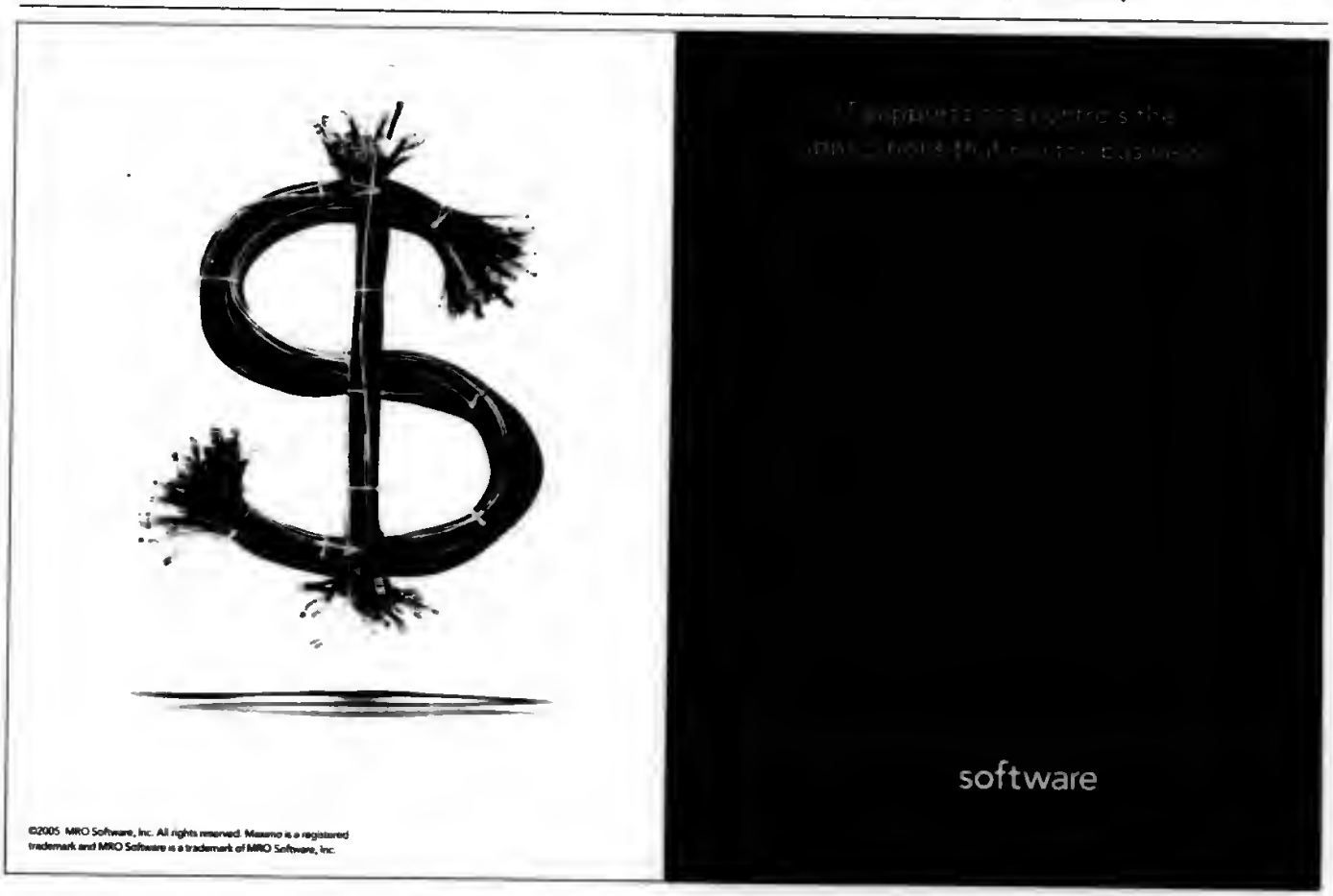
How was the new program received? It was a bit of a shock across the company. Over time, a lot of accountability had been given to committees. They can't he accountable. We dissolved most of the committees.

In the past, a lot of tbis stuff that was creating problems wasn't even visible at the senior level unless it got so bad that tbe clients started calling the CEO. We oow have a reporting system that tracks mean time between failures of all the applications.

When we first turned it on, it was scary, [but] my message [to employees] was, "We have to fix this together. The only tbing tbat will get you in trouble is covering things up."

Give an example of a problem you have uncovered with the program. When we first started the reliability process, I would meet witb my direct reports and ask about the status of operations. They would say, "We are green" [meaning all was going well]. I would walk from my office to the videoconference facility [to find] there was stuff going wrong all over the place.

[The reliability program] brings the people actually doing the work in with the senior executives of the company to talk about what happened. There is no spin control. It is live. The people who really helped us in the beginoing — who stepped up and were under fire — they are some of the best managers we have today. ◗



BRIEFS

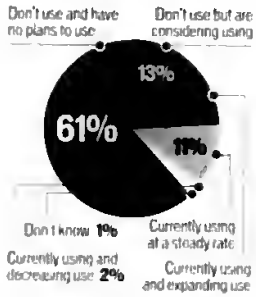
Outsourcing Update

Does your company outsource any software-related activities?

Base: 408 IT decision-makers at large North American companies; percentages don't equal 100 because of rounding

SOURCE

Which of the following best describes your company's approach to offshore IT service providers for software services?



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SOURCE

For outsourced application development, does your outsourcer do the following?

Add new functionality to existing applications	81%
Build new applications	79%
Build applets to connect existing applications	64%
Modernize old applications	55%
Other	6%

Base: 94 IT decision-makers at large North American companies currently outsourcing application development; multiple responses allowed

SOURCE

PAUL M. INGEVALDSON

Seven People of Highly Ineffective Habits

IN FORMATION technology professionals who want to become CIOs sometimes fail to understand a crucial aspect of the job: Besides being the top IT decision-maker, the CIO is a member of the team that plans and signs off on corporate strategy. There is no clear road map to get you on that executive team, but there are behaviors that will keep you off it. Here are seven IT types who won't make the cut.

PAUL M. INGEVALDSON retired as CIO at Ace Hardware Corp. in 2004, after 40 years in the IT business. Contact him at ingepi@aol.com

Jimmy the Geek is the stereotypical computer nerd, from his pocket protector to his unfashionable haircut. He looks like a cross between McGyver and Inspector Gadget, right down to his Swiss Army Knife, his iPod and the multifunction cellular "thing" hanging from his belt. He speaks an incomprehensible language of gigabytes and wireless protocols.

This is not an image that will get you into the executive suite. Once you're labeled a geek, you're always a geek.

Look to your CFO as a role model. Accounting is a highly technical profession with all kinds of subtle nuances and jargon, but the CFO's focus is always on the business.

Mr. T not only knows everything about technology, he flaunts it. He began strutting his stuff during the '90s, when the dot-com millionaires made technology cool. T's hard work and technical acumen have bought him the good life: gold necklaces, a flashy car, fabulous vacations.

But if you want to get into the executive club, it's better to not be a technology show-off. IT is a support department that enables line managers to achieve sales and profit targets. Become this trusted adviser. If you want to be a hotshot, move into line management.

The Consultant has taken on the language and mannerisms of his hired-gun role models. To make his opinions sound more important, he spices them up with words such as *low-hanging fruit*, *paradigm* and *quadrants*.

It may seem that this kind of language justifies real consultants' fees, but it won't get you into the executive suite. Keep it simple, understandable and down-to-earth.

The Goth tries so hard to prove he's his own man that it hurts. Whether it's the multiple eyebrow rings, the bungee jumping or the fact that he's a practicing Druid, he wears his eccentricities like a badge of honor. He won't back down, and he wants everybody to know it — every day.

Sure, it's a free country, but remember: It's a club you're trying to get into. People like to feel comfortable with the new members, and how you push the limits will be used to assess your judgment and common sense.

Howard Cosell "tells it like it is," regardless of the consequences for himself and others. Tact is not in his vocabulary. Like his namesake, he always has an opinion, and he won't hesitate to give it — whether you've asked him or not.

IT people are the most forthright people I know, but if you want to become CIO, think before you talk. I'm not saying you should become a yes man, but don't blurt out your first reaction.

Put yourself into your listeners' shoes, and be cognizant of how they will hear what you say. Learn to match your comments to the audience and gauge how you can have the most impact.

The One-Trick Pony has developed an expertise in one specialty that is unquestioned and revered. But he refuses to learn something new for fear that he won't be able to dominate.

Entrance into the executive washroom requires that you transform yourself from a specialist to a generalist. The One-Trick Pony can't do it.

The Monkey Mama always does it herself because she can't trust others to do things as well as she can. She even takes on the monkeys given to her by her subordinates and ends up doing their jobs, too.

IT people often have a hard time delegating, probably because our business is so technical that we get comfortable taking care of all the details ourselves. But learning to delegate is part of your development as a manager and a leader. Unless you get used to it, you have no chance of getting onto the executive floor.

That's my list. I'm sure that every CIO has exhibited some of these behaviors at some point, but each has learned that you have to quash your extreme tendencies if you're going to be successful in the executive quest.

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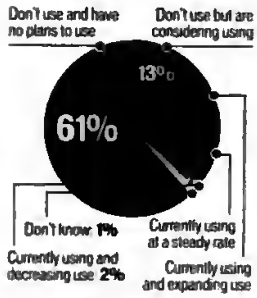

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Advertising Supplement

IT Careers: Driving Change in Diversity

Over the past 10 years, valuing diversity has been a critical goal for U.S. corporations. So why have the demographics stayed the same, or in the case of women, even dropped from the baseline set in 1996?

A variety of reasons can be given - lack of mentors, access to education, lack of role models. However, there are some critical common goals that sweep across every organization and association that represents information technology workers:

- Education is job one.
- Changing the diversity demographics of corporations requires that minorities and women get into the boardroom.
- Corporations who say diversity is a priority need to assess data continuously and reach out to minority and female workers daily.

Key leaders in the effort – Information Technology Association of America, the Black Data Processing Association, Latinos in Information Sciences & Technology Association, and Career Communications Group – have been reporting about and working the issues of diversity for years. The data they share is not positive: African-Americans and Hispanics are under represented in the IT workforce when compared to the overall workforce; and the number of women in technology has actually dropped in the past decade. As LISTA Executive Director Jose Marques says, "We need for employers to see Latinos and other minorities as leaders, not just as groups of consumers."

Ironically, jobs are opening and the pool of candidates – students enrolled in math, science, engineering and technology -- is shrinking. So why isn't that translating into new opportunity for minority and female IT professionals?

The reasons vary by industry sector and individual companies. What's important is that change will come at the top, when there is diversity in the boardroom and among leaders. All the organizations indicated that personal commitment by an executive is the differentiator between good and great employers for minorities and women.

Identifying these differences has been the topic of study for ITAA and for BDPA through its annual Best Companies for Blacks in Technology list. Erica Ashton, editor for CCG's magazines – U.S. Black Engineer, Hispanic Engineer and Women of Color – says the publications will conduct surveys to identify the best places to be for IT professionals, and also what the companies are doing that makes them best. CCG founder Tyrone Tabom recently profiled such a company leader, William Swanson, CEO of Raytheon, whose first stop at a higher education institution was at Tuskegee University.

The irony in these efforts is that many of the same names surface. IBM has long been among the top leaders. This year Lockheed Martin was named BDPA's top company for Blacks in Technology, and Linda Gooden, president of Lockheed Martin Information Technology was named Black Engineer of the Year by CCG.

Among the key events for 2006:

Feb. 16-18, 20th Annual Black Engineer of the Year Awards Conference, Baltimore, MD; Linda Gooden, president of Lockheed Martin Information Technology selected for award.

May 1-5, ITAA World Congress on IT: Global Impact-Unleashing Human Potential, Austin, TX

June 28, LISTA: National Latino Technology Achievers Awards Gala, New York City

Aug 2-5, BDPA National Conference: Picturing the Future of Information Technology, Los Angeles, CA; includes Best Companies for Blacks in Technology Awards

For more information about IT Careers advertising, please call: 800.762.2977

Produced by Carole R. Hedden

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Salesforce.com Hopes Revamp Will Calm Users' Outage Fears

Adds support for services marketplace

BY MARC L. SONGINI

OFFICIALS AT Salesforce.com Inc. last week said the company is nearing completion of a $50 million infrastructure overhaul that they hope will stem fears that arose after a service outage last month.

The company first disclosed plans for the new platform for its hosted software business last August. The updated infrastructure will include a new data center on the East Coast and two on the West Coast. The so-called Mirrorforce system will have replication capability, so that when one center goes down, another can immediately take over.

Mirrorforce is due to go live this winter, said Bruce Francis, chief strategist at San Francisco-based Salesforce.com. "When complete, it will enable virtually instant disaster-recovery fail-over that should help keep our customers online in the event of a natural or man-made disaster," he said.

The system was upgraded to accommodate the new AppExchange system, which will host hundreds of applications written by Salesforce.com and its partners, Francis said. "We assessed what we would need to deliver those benefits and continue to scale ahead of our customer needs, and Mirrorforce is the answer," he said.

Salesforce.com CEO Marc Benioff said he is confident that the back-end infrastructure will be strong enough to support the myriad hosted applications the company plans to offer through AppExchange.

"That's why we've made huge investments in all this new technology," he said. "We've wholesale replaced our architecture, our hardware, our software, to get us to the next level [of service]."

However, for one disgruntled user, who asked that he and his company not be identified, the upgrade won't make a difference. The user, who heads a high-tech firm, started using Salesforce.com's CRM service last year. By August, he said, system availability had become intermittent.

The problems induced the company to craft a homegrown CRM application in October. The user said he is encouraged by the Mirrorforce initiative, but he's not going to return to Salesforce.com. "We got benefit from [using Salesforce.com]," he said. "I hope they do well."

Salesforce.com said the upgrade is unrelated to the December outage of its hosted CRM service, which it called a temporary glitch. The outage lasted a full day for some customers, and some critics said it was an indication that the Salesforce.com infrastructure had reached its limit. ▮

Elizabeth Montalbano of the IDG News service contributed to this story.

Salesforce.com Unveils Marketplace

[illegible] last week finally launched its oft-discussed platform for hosting non-CRM applications that it and third parties have created.

Plans for the AppExchange software services marketplace were first disclosed by the hosted software vendor in September.

The AppExchange network allows software developers to create, market and deliver applications to Salesforce.com subscribers. The infrastructure is managed by Salesforce.com so that the partners providing the software – and their customers – won't have to worry about reliability and security.

Toronto-based Dealer Information Inc. is already using a Salesforce.com sales-prospect application delivered through AppExchange, said Duc Lam, database and marketing manager at the staffing-services and products provider. Lam said AppExchange is a very "straightforward platform" to work on, requiring only a few hours to build, test and deploy. Dealer also uses Salesforce.com's CRM offering.

As for pricing, the application user negotiates privately with the developer for access to the latter's application. Salesforce.com is offering some of its new applications to CRM subscribers without charge. The company hopes the new offering will help it expand beyond the traditional CRM hosting business, said Phil Robinson, chief marketing officer at Salesforce.com.

Prior to last week's unveiling, Salesforce.com and its partners had already placed 180 applications on AppExchange, including payment-processing and real estate management software. End users can access the software through a Web browser.

Salesforce.com and its partners will provide tools to help connect hosted applications to a customer's internal systems, said Robinson. Customers looking for a human resources application can look at the available listings, read reviews and test the application before making a deal with the application's developer, he said.

Among the partners that have listed applications on the site are Adobe Systems Inc. and Business Objects SA.

– MARC L. SONGINI

AppExchange

Salesforce.com's application marketplace works as follows:

- It gives subscribers access to custom applications from Salesforce.com and its partners.
- The buyer negotiates the price with the seller.
- Salesforce.com gets revenue from non-CRM subscribers.
- Some Salesforce.com applications can be used free.

Continued from page 1

MasterCard

of security-related logs daily, helping MasterCard's security workers by eliminating things such as false-positive reports, McWhinnie said. It took only three months to implement the software, but he noted that a large amount of "grunt and groan" work was required to tune the tool so it would report only actionable security events and avoid passing on too much irrelevant data.

Because of such challenges, MasterCard's early success is a rarity among large SIM rollouts, said George Hamilton, an analyst at Boston-based Yankee Group Research Inc. who is familiar with the credit card company's project.

Hamilton said SIM tools began attracting a lot of attention last year, partly because of reporting requirements imposed by regulations such as the Sarbanes-Oxley Act and the Health Insurance Portability and Accountability Act. But he added that the software can be a "nightmare" to manage, "with thousands of event logs being reported per second" from servers, firewalls intrusion-protection and -detection systems and other components.

"Data explosion was not a problem, because we foresaw it"

says

In addition, many users haven't been prepared for the increased need for storage hardware, servers and database administrators that SIM implementations can impose, Hamilton said.

Although MasterCard did add an unspecified number of servers and storage devices as part of the Sentinel rollout, it didn't need to increase its database administration staff, McWhinnie said. He added that the Purchase, N.Y.-based company set a detailed "escalation plan" for dealing with the data generated by the tool.

MasterCard's prior experiences with its own tools helped to simplify resource planning, McWhinnie said. "Data explosion was not a problem, because we foresaw it and dealt with it upfront," he said. "We already knew where some of the pitfalls would be and went into this with very open eyes."

McWhinnie declined to disclose the SIM rollout's cost, describing it only as a medium-size IT project for MasterCard. He also wouldn't identify the other products his team evaluated before choosing Sentinel.

Officials at Vienna, Va.-based e-Security said the Sentinel server software costs $89,000 with support for 20 devices. There is an additional cost of $300 to $700 per network or security device. ▮

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MasterCard

of security-related logs daily, helping MasterCard's security workers by eliminating things such as false-positive reports, McWhinnie said. It took only three months to implement the software, but he noted that a large amount of "grunt and groan" work was required to tune the tool so it would report only actionable security events and avoid passing on too much irrelevant data.

Because of such challenges, MasterCard's early success is a rarity among large SIM rollouts, said George Hamilton, an analyst at Boston-based Yankee Group Research Inc. who is familiar with the credit card company's project.

Hamilton said SIM tools began attracting a lot of attention last year, partly because of reporting requirements imposed by regulations such as the Sarbanes-Oxley Act and the Health Insurance Portability and Accountability Act. But he added that the software can be a "nightmare" to manage, "with thousands of event logs being reported per second" from servers, firewalls, intrusion-protection and -detection systems and other components.

"Data explosion was not a problem, because we foresaw it," McWHINNIE says.

In addition, many users haven't been prepared for the increased need for storage hardware, servers and database administrators that SIM implementations can impose, Hamilton said.

Although MasterCard did add an unspecified number of servers and storage devices as part of the Sentinel rollout, it didn't need to increase its database administration staff, McWhinnie said. He added that the Purchase, N.Y.-based company set a detailed "escalation plan" for dealing with the data generated by the tool.

MasterCard's prior experiences with its own tools helped to simplify resource planning, McWhinnie said. "Data explosion was not a problem, because we foresaw it and dealt with it upfront," he said. "We already knew where some of the pitfalls would be and went into this with very open eyes."

McWhinnie declined to disclose the SIM rollout's cost, describing it only as a medium-size IT project for MasterCard. He also wouldn't identify the other products his team evaluated before choosing Sentinel.

Officials at Vienna, Va.-based e-Security said the Sentinel server software costs $89,000 with support for 20 devices. There is an additional cost of $300 to $700 per network or security device.

Salesforce.com Unveils Marketplace

SALESFORCE.COM last week finally launched its oft-discussed platform for hosting non-CRM applications that it and third parties have created.

Plans for the AppExchange software services marketplace were first disclosed by the hosted software vendor in September.

The AppExchange network allows software developers to create, market and deliver applications to Salesforce.com subscribers. The infrastructure is managed by Salesforce.com so that the partners providing the software – and their customers – won't have to worry about reliability and security.

Toronto-based Drake International Inc. is already using a Salesforce.com sales proposal application delivered through AppExchange, said Duc Lam, database and marketing manager at the staffing services and products provider. Lam said AppExchange is a very "straightforward platform" to work on, requiring only a few hours to build, test and deploy. Drake also uses Salesforce.com's CRM offering.

As for pricing, the application user negotiates privately with the developer for access to the latter's application. Salesforce.com is offering some of its new applications to CRM subscribers without charge. The company hopes the new offering will help it expand beyond the traditional CRM hosting business, said Phil Robinson, chief marketing officer at Salesforce.com.

AppExchange

Salesforce.com's application marketplace works as follows.

- It gives subscribers access to custom applications from Salesforce.com and its partners.
- The buyer negotiates the price with the seller.
- Salesforce.com gets revenue from non-CRM subscribers.
- Some Salesforce.com applications can be used free.

Prior to last week's unveiling, Salesforce.com and its partners had already placed 160 applications on AppExchange, including payment-processing and real estate management software. End users can access the software through a Web browser.

Salesforce.com and its partners will provide hooks to help connect hosted applications to a customer's internal systems, said Robinson. Customers looking for a human resource application can look at the available listings, read reviews and test the application before making a deal with the application's developer, he said.

Among the partners that have listed applications on the site are Adobe Systems Inc. and Business Objects SA.

– MARC L. SONGINI

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FRANK HAYES ■ FRANKLY SPEAKING

Keep the Pipe Open

AMERICANS want an open Internet. Some surprise, huh? According to a just-released study by the Consumer Federation of America, 72% of consumers surveyed say that companies providing broadband Internet services should let users have access to any legal Web site and any legal Internet service. (You can download the complete results of the survey from *www.consumerfed.org/pdfs/net_neutrality_poll.pdf.*)

Consumers also suspect that broadband companies aren't exactly gung-ho about keeping that Internet pipe open. A majority of survey respondents said they fear that broadband vendors will cripple or block access to things like streaming video and voice over IP if they compete with the broadband vendor's services.

Are these consumers paranoid? Nope. And their concerns should also worry corporate IT.

See, consumers get kicked around a lot more than corporate IT. And consumers are more inclined to try things on the Internet that we woo't touch uotil they're a lot more mature.

So those consumers will give VoIP a shot. They see a Vonage commercial, or their nerdy nephew sets them up with Skype. Then they compare notes with friends and relatives on how well it works. They get suspicious if it runs fine when they're at Uncle Fred's house for a visit but keeps breaking up when they're at home.

Or they'll watch streaming video that plays fine at work but just staggers along at home. When a sympathetic help desk guy tells them a DSL or cable modem should be plenty fast for watching that video, they begin to think maybe their broadband pipe is getting choked.

Maybe they're right. After a series of FCC and court decisions, it's no longer illegal for a broadband provider to limit or block Internet content or services for any reason. Providers usually make noises about security or network management when they do this. Consumers don't care. They just know their DSL won't let them cut their phone bill with Vonage, or the cable modem won't let them see streaming video from Google.

Of course, they're individual consumers. We're big corporations. Nobody can clog up *our* use of the Internet that way — right?

Sure they can. And there's only so much we can do to stop it.

Oh, we can write clauses into our telecom and networking contracts, specifying that providers can't block our use of VoIP or other Internet technologies.

But eveo if we have an open pipe to the Internet backbone, that doesn't mean we have clear access to our customers and suppliers. If *their* Internet providers block certain kinds of IP traffic, we're talking to a wall.

And it's not just about streaming video or VoIP. What if some Internet providers put a throttle on videoconferencing we use for meetings? What if they slap limits on specialized technologies we use for supply chain management or customer support? What happens when the CEO can't connect to the VPN from home?

We need an Internet that's an open pipe. And we need that for our users, our business partners and everyone else on the Internet, too. This is infrastructure our businesses depend on.

Some groups, including those that sponsored that consumer survey, want Congress to pass a law requiring broadband providers to provide an open pipe. That sends a chill through big telcos and cable companies, which insist that a new law regulating broadband is unnecessary. Some, like Verizoo Communications, say they already provide an open Internet pipe. Good for them. But that's not enough.

FRANK HAYES, Computerworld's senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

If open-pipe broadband providers don't want Congress poking its nose in, it's time for them to start pressuring their competitors to stop blocking or limiting Internet traffic. Industry self-regulation may sound like a pipe dream, but they'd better hope it works.

Because if broadband players don't start working hard to keep the Internet pipe open, they may lose control of the plumbing. ▸

The Wrong Man for the Job

Pilot fish is in a division office and needs the Internet proxy server hard-rebooted. But it's after 5 p.m., and the only person he can reach at corporate is the IT director. "He said he hard-booted the machine, but my terminal service connection did not end," says fish. "I asked him to push the power button again. He said he did. I asked him which button he was pushing. He told me the round, glowing blue one in the middle of the server that said 'Dell.' I had to walk him through removing the front bezel and pressing the proper power button."

SHARK TANK

Too Late!

This program manager can't grasp the idea of gathering requirements at the start of a project. "At a project kickoff meeting, which he had neglected to actually invite the customer to, we had a lot of discussion around what the software we were creating was supposed to do," says pilot fish on the team. "I suggested pulling together a requirements teleconference with the customer to clarify their ideas and goals." PM's response? "I was told we were already behind schedule and didn't have time to meet with the customer."

Hard Problem

Help desk pilot fish gets a call from a group of programmers about a printer problem that's stumping them. "The programmers said they had checked network connections, the print queue, the print server configuration, all away to the power supply and paper feed," fish reports. "They said the printer needs replacing. A support tech is sent to investigate. They were missing the ink cartridge."

Why Me?

Third-tier support pilot fish gets a call at 2 a.m. User: "I'm sorry to wake you up, but System X is broken. Fish (who knows System X is important but also knows just enough about it to spell its name): Why did you call me? User: "I wanted to know if I should call Wally" – the engineer who works on System X. Fish: Do you realize what you just asked? User: "Oops, sorry!"

Just Talk

"Does my boss have a voice recorder on his laptop?" user asks IT pilot fish at a manufacturing plant. "Whenever I walk into his office, he hits a key on his keyboard and then begins talking to me. I think he's recording everything I say." Fish explains that most laptops have built-in microphones, but with the lid closed, it likely wouldn't pick up much. "That seemed to make him happy, and he went on his way," fish says. "But it made me wonder what he was saying."

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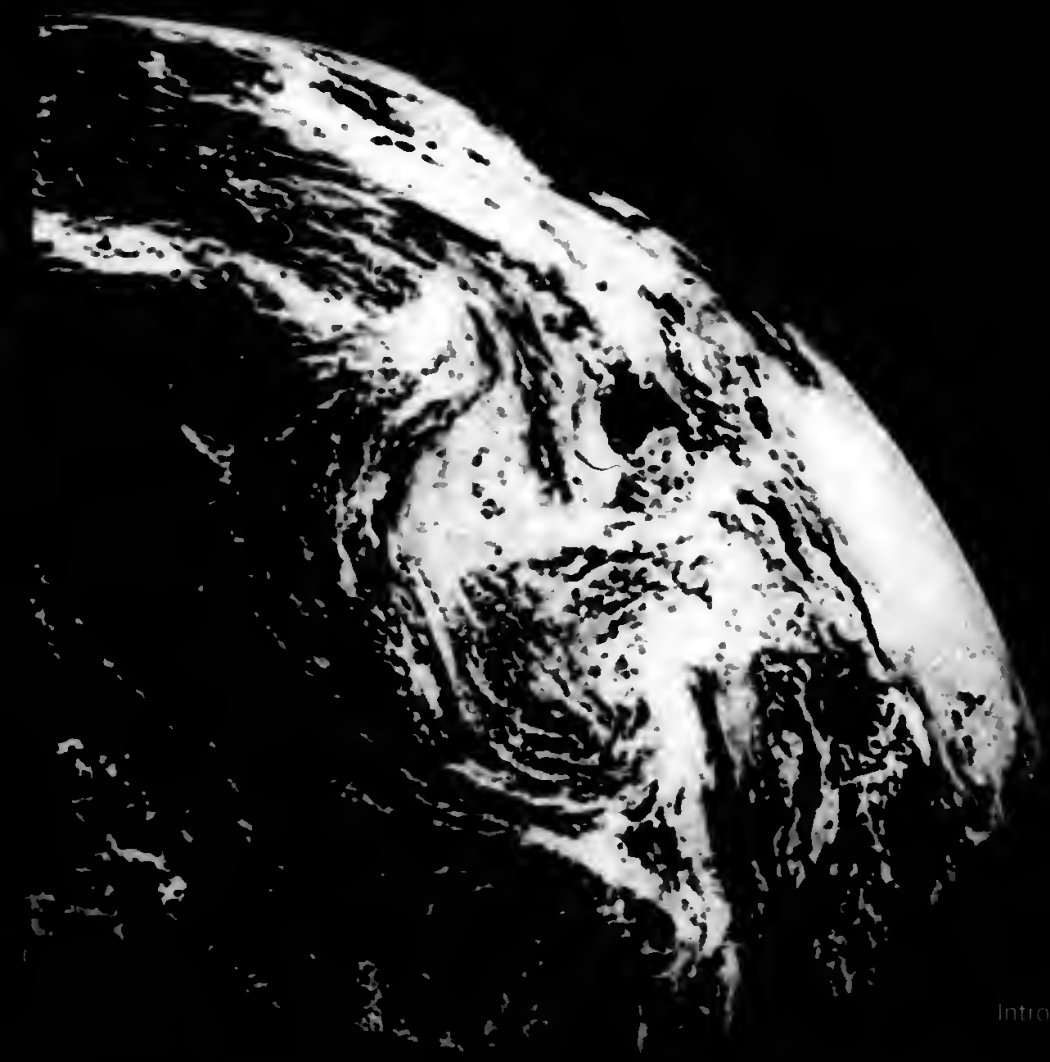

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9 Please indicate the Operating Systems/ Network Environments currently in use or planned for use at

- ❑ 01 Windows Server 2003
- ❑ 02 Windows XP
- ❑ 03 Windows 2000
- ❑ 04 Windows NT
- ❑ 05 Windows 95/98
- ❑ 06 Windows CE
- ❑ 07 Palm OS
- ❑ 08 OS/400
- ❑ 09 VM/MVS
- ❑ 10 Linux
- ❑ 11 UNIX
- ❑ 12 Solaris
- ❑ 13 Netware
- ❑ 14 Mac OS
- ❑ 96 Other
- ❑ 99 NONE of the above

10 Please check below all the Enterprise Software/ Services that you either currently help acquire and/or plan to acquire annually either through approval, planning, recommendation or specification.
(Check ALL that apply in each column)

Current Planned
❑ ❑ 01 **ENTERPRISE SOFTWARE/SERVICES**
Current Planned
❑ ❑ 02 Application Service Providers (ASPs)
❑ ❑ 03 Enterprise Resource Planning (ERP)/ Customer Relationship Mgmt (CRM)
❑ ❑ 04 Knowledge Management (KM)
❑ ❑ 05 Groupware/Messaging
❑ ❑ 06 Systems Management
❑ ❑ 07 Accounting/Financial
❑ ❑ 08 Data Mining/Data Warehousing/ Statistical Analysis
❑ ❑ 09 Business Intelligence/Data Management
❑ ❑ 10 Relational Database (RDBMS)
❑ ❑ 11 Middleware
❑ ❑ 12 Application Development Software
❑ ❑ 13 Sales Automation/Marketing
❑ ❑ 14 Document Management/Imaging
❑ ❑ 15 Transaction Processing
❑ ❑ 16 Human Resources (HR)
❑ ❑ 17 E-mail/Directory Services
❑ ❑ 18 PC Applications/Suites
❑ ❑ 19 Regulatory Compliance Products/Services

Current Planned
❑ ❑ 20 **APPLICATION DEVELOPMENT**
Current Planned
❑ ❑ 21 JAVA
❑ ❑ 22 NET
❑ ❑ 23 Application Development Management Tools
❑ ❑ 24 Other Application Development Software
❑ ❑ 25 Web Services
❑ ❑ 99 NONE of the above

11 Please check below all the Hardware products that you either currently help acquire and/or plan to acquire annually either through approval, planning, recommendation or specification.
(Check ALL that apply in each column)

Current Planned
❑ ❑ 01 **HARDWARE**
Current Planned
❑ ❑ 02 Mainframes
❑ ❑ 03 UNIX Servers
❑ ❑ 04 Windows Servers
❑ ❑ 05 Linux Servers
❑ ❑ 06 Blade Servers
❑ ❑ 07 PCs/Workstations
❑ ❑ 08 Laptops, Notebooks
❑ ❑ 09 Handheld PCs, PDAs, Pocket PCs, Wireless Devices

Current Planned
❑ ❑ 10 **PERIPHERALS**
Current Planned
❑ ❑ 11 Printers/Copiers/Multifunction
❑ ❑ 12 Removable High-Capacity Storage
❑ ❑ 13 Tape Backup Systems
❑ ❑ 14 Monitors
❑ ❑ 15 Scanners
❑ ❑ 16 UPS
❑ ❑ 17 LCD Projection Devices
❑ ❑ 99 NONE of the above

12 Please check below all the Products or Technologies that you either currently help acquire and/or plan to acquire annually either through approval, planning, recommendation or specification.
(Check ALL that apply in each column)

Current Planned
❑ ❑ 01 **NETWORKING PRODUCTS & TECHNOLOGIES**
Current Planned
❑ ❑ 02 Wired LANs
❑ ❑ 03 Wireless LANs, Wi Fi
❑ ❑ 04 Switches, Routers, Hubs
❑ ❑ 05 Security/Firewalls

12 Continued
❑ ❑ 06 Network Systems Mgmt. Software
❑ ❑ 07 Network Security Software
❑ ❑ 08 Load Balancing
❑ ❑ 09 VoIP

Current Planned
❑ ❑ 10 **STORAGE**
Current Planned
❑ ❑ 11 SAN (Storage Area Network)
❑ ❑ 12 NAS (Network Attached Storage)
❑ ❑ 13 Storage Management
❑ ❑ 14 Disk Arrays (Fiber, SCSI)
❑ ❑ 15 Disaster Recovery Business Continuity
❑ ❑ 16 Desktop Storage
❑ ❑ 17 Other Storage

Current Planned
❑ ❑ 18 **SECURITY**
Current Planned
❑ ❑ 19 Firewalls
❑ ❑ 20 IDS/IPS
❑ ❑ 21 VPN Services
❑ ❑ 22 Anti-Virus
❑ ❑ 23 Smart Cards
❑ ❑ 24 Biometrics
❑ ❑ 25 Security Mgmt. Services/ Software

Current Planned
❑ ❑ 26 **INTERNET INFRASTRUCTURE**
Current Planned
❑ ❑ 27 Web Applications Authoring Tools
❑ ❑ 28 Content Management
❑ ❑ 29 Web Site Mgmt./Performance Monitoring
❑ ❑ 30 Supply Chain
❑ ❑ 99 NONE of the above

13 Are you currently outsourcing or planning to outsource within the next 12 months, any of the following IT functions or services?
❑ 01 Application development
❑ 02 Application support/maintenance
❑ 03 Help Desk/Call Center
❑ 04 Network operations
❑ 05 Business processes
❑ 06 Security Services
❑ 99 NONE of the above

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2 Which of the following best describes your organization's industry or function at this location? (Check ONE only)

NON-COMPUTER RELATED INDUSTRIES
- ❑ 01 Aerospace
- ❑ 02 Manufacturing & Process Industries (non-computer related)
- ❑ 03 Finance/Banking/Accounting
- ❑ 04 Insurance/Real Estate/Legal Services
- ❑ 05 Government: Federal (including Military)
- ❑ 06 Government: State or Local
- ❑ 07 Health/Medical/Dental Services
- ❑ 08 Retailer/Wholesaler/Distributor (non-computer related)
- ❑ 09 Transportation/Utilities
- ❑ 10 Communication Carriers (ISP, Telecomm, Data Comm, TV/Cable)
- ❑ 11 Construction/Architecture/Engineering
- ❑ 12 Data Processing Services
- ❑ 13 Education
- ❑ 14 Agriculture/Forestry/Fisheries
- ❑ 15 Mining/Oil/Gas
- ❑ 16 Travel/Hospitality/Recreation/Entertainment
- ❑ 17 Publishing/Broadcast/Advertising/PR/Marketing
- ❑ 18 Research/Development Lab
- ❑ 19 Business Services/Consultant (non-computer related)

COMPUTER RELATED INDUSTRIES
- ❑ 20 Mfg. of Computers, Communications, Peripheral Equipment or Software
- ❑ 21 Computer Related Retailer/Wholesaler/Distributor
- ❑ 22 VAR, VAD, Systems or Network Integrator
- ❑ 23 Computer/Network Consultant
- ❑ 24 Service Provider (ASP, ESP, Web Hosting)
- ❑ 25 E-commerce/Internet and other Computer Related Business Services
- ❑ 98 Other _____ please specify

3 What is your primary job title? (Check ONE only)

IT MANAGEMENT
- ❑ 01 CIO, CTO, CSO
- ❑ 02 Executive VP, Sr. VP
- ❑ 03 Vice President
- ❑ 04 Director
- ❑ 05 Manager/Other IT Manager
- ❑ 06 Supervisor
- ❑ 07 Systems Integrator
- ❑ 08 Technical Consultant

BUSINESS MANAGEMENT
- ❑ 09 CEO, COO, Chairman, President
- ❑ 10 CFO, Controller, Treasurer
- ❑ 11 Executive VP, Sr. VP, VP, General Manager
- ❑ 12 Director, Manager
- ❑ 13 Other Corporate/Business Manager
- ❑ 14 Consultant (Non-Technical)

IT STAFF
- ❑ 15 IT Staff (including Software/Tech. Engineer)

OTHER
- ❑ 98 Other (Non-Manager)

_____ please specify

4 What are your job functions? (Check ALL that apply)

IS/IT MANAGEMENT
- ❑ 01 Executive IT (CIO/CTO/CSO/EVP/SVP/VP)
- ❑ 02 IT Management (Director/Manager)
- ❑ 03 Network/Systems Management
- ❑ 04 R&D Management
- ❑ 05 Web-based Business
- ❑ 06 Applications Development
- ❑ 07 Systems Engineering
- ❑ 08 Programming/Sys Analyst/Architect
- ❑ 09 Telecommunication
- ❑ 10 Consultant/Integrator
- ❑ 11 Other IT Management

_____ please specify

BUSINESS MANAGEMENT
- ❑ 12 Corp. Mgmt. (CEO/COO/Chairman/President/Owner/GM/VP/Dir/Mgr)
- ❑ 13 Finance Mgmt. (CFO/Controller/Treasurer)
- ❑ 14 Sales/Marketing
- ❑ 15 HR/Training/Education
- ❑ 16 Legal/Compliance
- ❑ 17 Other Dept. Management

_____ please specify

OTHER
- ❑ 18 IT Staff/Tech Support
- ❑ 19 Non-Technical Consultant/Integrator
- ❑ 99 NONE of the above

5 What is the total number of employees at all locations in your entire organization including divisions, branches and subsidiaries? Consultants: Please answer for the number of employees of your largest client. (Check ONE only)
- ❑ 01 20,000 or more
- ❑ 02 10,000 - 19,999
- ❑ 03 5,000 - 9,999
- ❑ 04 1,000 - 4,999
- ❑ 05 500 - 999
- ❑ 06 100 - 499
- ❑ 07 50 - 99
- ❑ 08 Less than 50

6 What is your organization's total annual budget for information services, including computers and communications hardware, software, consulting and services? Consultants: Please include the budget for your clients as well as that of your own business. (Check ONE only)
- ❑ 01 $1 billion or more
- ❑ 02 $500 to $999.9 million
- ❑ 03 $100 to $499.9 million
- ❑ 04 $50 to $99.9 million
- ❑ 05 $10 to $49.9 million
- ❑ 06 $1 to $9.9 million
- ❑ 07 $500,000 to $999,999
- ❑ 08 $250,000 to $499,999
- ❑ 09 $100,000 to $249,999
- ❑ 10 Under $100,000
- ❑ 99 NONE of the above

7 For the product/service groups listed below, please indicate the annual dollar value of computing/networking/communication equipment and software/services, which YOU are currently or will be involved in purchasing.

Please write the correct number code for the dollar amount on the corresponding line. **Note:** If you cannot distinguish between this and other location(s), put response in the first column. **Consultants:** Please include what you recommend for your clients as well as what you buy for your own business.

01 $250 million or more	08 $250,000 to $499,999
02 $150 to $249.9 million	09 $100,000 to $249,999
03 $100 to $149.9 million	10 $75,000 to $99,999
04 $50 to $99.9 million	11 $50,000 to $74,999
05 $10 to $49.9 million	12 $25,000 to $49,999
06 $1 to $9.9 million	13 Under $25,000
07 $500,000 to $999,999	99 None

PRODUCT/SERVICE	For this location	For all other locations
Electronic Commerce/ Internet Business		
Internet/Intranet/Extranet		
Telecommunication Equipment/Service		
PCs (desktop/notebook)		
Servers/Workstations		
Networking Products/ Services		
Large Distributed Systems (mainframe/midrange/mini)		
Peripherals		
Software		
Mobile/Wireless/Handhelds		
Storage Management		
Systems Integrators/ Consultants		

8 Please select the statements below that best describe your personal involvement in the purchase process for IT products/services (including e-business initiatives) for either yourself at work, for others in your organization or on behalf of a client. (Check ALL that apply)
- ❑ 01 Authorize/approve purchase
- ❑ 02 Evaluate/recommend products, brands, vendors
- ❑ 03 Specify features/technical requirements
- ❑ 04 Set budget for expenditures
- ❑ 05 Determine need to purchase
- ❑ 06 Create IT strategy
- ❑ 99 NONE of the above

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